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The October 1981

Massachusetts Economic Policy Analysis (MEPA)

Model Forecast

by

George Treyz and Roy Williams*

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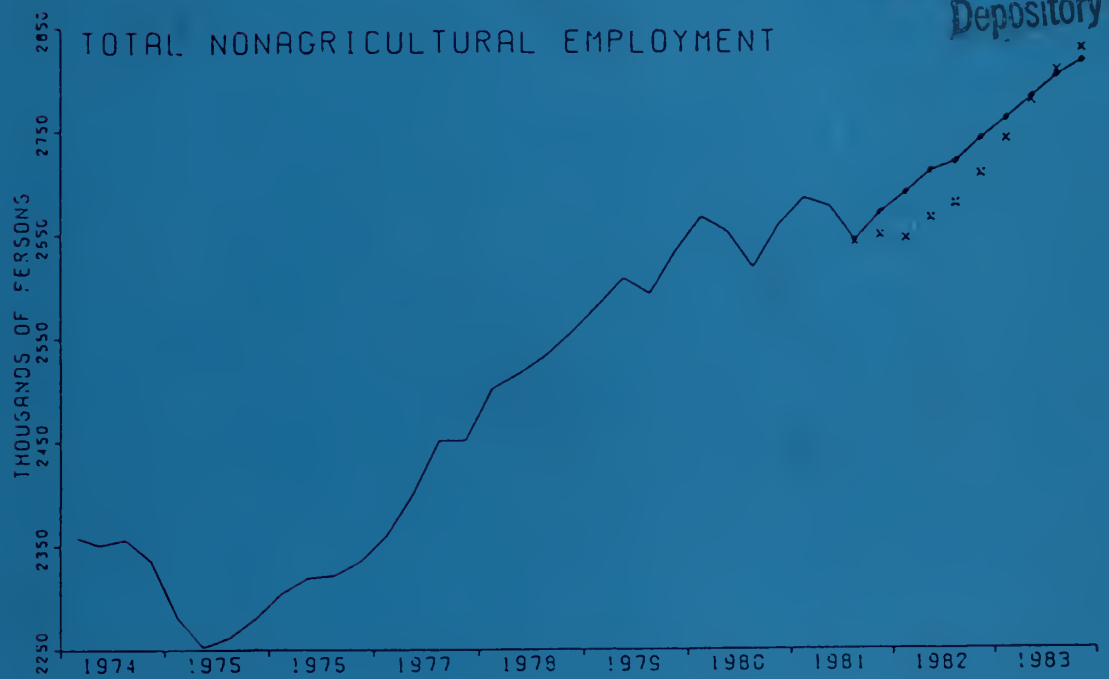

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THE OCTOBER 1981

MASSACHUSETTS ECONOMIC POLICY ANALYSIS (MEPA)

AND

REVENUE ANALYSIS AND FORECASTING (MRAF)

MODEL FORECASTS

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The October 1981 Massachusetts Economic Policy Analysis (MEPA) Model Forecast

by

George Treyz and Roy Williams*

The Massachusetts economy stumbled in the third quarter of 1981. The major sources of the employment drops were decreases in local and state government employment as a result of Proposition 2½ and the state legislature's response to it and a drop in Massachusetts manufacturing employment both absolutely and relative to the nation. The employment reductions were reflected in an increase in the state unemployment rate of seven tenths of one percentage point at the same time that the nation's unemployment rate was decreasing by two tenths of one percentage point.

Is this dip in the state's economy the beginning of a prolonged downturn? We doubt it for two reasons. First, some of the local government employment drop was due to temporary teacher layoffs and will not be permanent. And second manufacturing employment will pick up again both absolutely and relative to the nation when defense and equipment spending begin to respond to Washington's new spending and tax policies. However, equipment purchases may be held down by high interest rates and the strong dollar abroad.

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*Director and Associate Director, respectively, of the MEPA project, Economics Department, University of Massachusetts, Amherst, MA 01003. (Tel. 413-545-0915).
Technical support was given by staff of the Massachusetts Division of Employment Security. Support from the Legislative Science Resource Office, the Department of Public Welfare, the Executive Office of Economic Affairs, the Division of Employment Security, and Massport. National inputs from CONTROL092381 and RECESSION092481 from Data Resources, Inc.

The outlook for price & wage inflation is for lower wage and price increases in the nation and therefore in Massachusetts than were expected a few months ago. By 1982 the rate of price increase is expected to be below eight percent both in Massachusetts and in the nation.

One of the consequences of having a lower increase in wages and prices in Massachusetts than in our previous forecast is that personal income and the dollar volume of sales both grow more slowly, and hence income tax and sales tax collections are reduced. This will put further pressure on the state budget which sets fixed amounts of spending but where income depends on the dollar growth of the tax bases.

Since the possibility of a national recession is also being discussed we have prepared an alternative forecast for Massachusetts based on a recession forecast for the nation. It shows a growing rather than a stable and slightly declining unemployment rate from now into the first quarter of 1982. It also shows substantially lower state revenues in both fiscal 1982 and fiscal 1983.

In summary we expect the Massachusetts economy to recover from its poor performance in the third quarter of 1981 but not to gain any real momentum until the second half of 1982.

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OCTOBER CONTROL FORECAST (T5)

SUMMARY REPORT
MASSACHUSETTS ECONOMIC POLICY ANALYSIS MODEL
(Seasonally Adjusted Annual Rates)

	1979	1980	1981	1982	1983
Employment--Nonag. W. & S.	2603	2648	2668	2715	2790
% Change	3.1	1.7	.8	1.7	2.8
Manufacturing	672	673	669	685	708
% Change	3.0	.2	-.6	2.3	3.5
Non-Manufacturing	1931	1975	1999	2030	2082
% Change	3.1	2.3	1.2	1.6	2.5
Unemployment Rate	5.5	5.6	6.1	6.1	5.6
Employment Rate Index*	104.8	105.5	105.4	106.8	109.5
% Change	2.1	.7	-.1	1.3	2.6
Relative to U.S. Index*	99.0	100.2	100.0	100.5	101.6
Rate of Wage Change	7.7	8.5	9.1	7.7	7.2
Wage Index Rel. to U.S.*	94.4	94.0	93.9	94.4	94.7
Avg. Weekly Hours in Mfg.	40.3	39.8	40.2	40.4	40.5
Rate of Price Inflation	10.3	12.7	11.3	7.5	7.7
Relative to U.S. CPI*	96.7	96.0	97.0	96.6	96.7
Personal Income (mil$)	51350	57243	63459	69464	76021
% Change	11.9	11.5	10.9	9.5	9.4
Disposable Income (mil$)	43012	47923	52911	58251	64329
% Change	10.9	11.4	10.4	10.1	10.4
Real Per Cap. D.I. Index*	107.4	106.4	105.6	107.9	110.5
Relative to U.S.*	102.6	104.7	104.3	105.2	105.6
Rel. Business Cost Index*	96.5	96.4	95.9	95.8	96.0
Manufacturing*	95.9	95.9	95.0	94.7	94.9
Non-Manufacturing*	96.7	96.6	96.3	96.2	96.5

*Indexes equal 100 in calendar 1973.

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OCTOBER CONTROL FORECAST (T5)

EMPLOYMENT IN MASSACHUSETTS--INDUSTRY DETAIL
(Thousands of People)

	1979	1980	1981	1982	1983
Manufacturing	672.0	673.1	669.0	684.6	708.4
As % of U.S.	3.19	3.32	3.27	3.27	3.31
Durables	401.1	409.7	411.4	426.0	445.6
Lumber, Furntr. (24/25)	13.9	13.4	13.3	12.9	13.2
Stone, Clay, etc. (32)	13.7	13.1	12.6	12.8	13.6
Primary Metals (33)	17.6	17.3	16.8	17.3	17.9
Fabricated Metals (34)	55.1	54.1	52.9	53.8	55.7
Non-elec. Machin. (35)	101.6	109.6	110.6	115.5	121.6
Elec. Equipment (36)	104.6	109.4	111.9	115.9	122.4
Transport. Equip. (37)	37.0	35.4	33.6	34.5	35.2
Instruments (38)	57.5	57.6	59.8	63.2	66.0
Nondurables	270.9	263.4	257.5	258.6	262.8
Food (20)	28.2	27.4	26.2	25.9	25.9
Textiles (22)	27.1	25.4	24.9	25.2	25.6
Apparel (23)	40.7	39.8	37.5	36.1	36.9
Paper (26)	29.8	28.9	28.4	28.4	28.8
Printing (27)	44.0	43.7	43.5	43.9	44.2
Chemicals (28)	18.2	18.3	17.7	17.8	18.4
Rubber (30)	32.5	31.0	30.8	31.9	33.4
Leather (31)	22.2	20.8	20.2	20.1	19.7
Other Nondurables (39)	28.3	28.2	28.2	29.2	29.8
Nonmanufacturing	1931.4	1975.2	1999.3	2030.3	2081.7
Contract Construction	75.7	73.6	69.3	71.4	83.7
Transport & Utilities	120.5	122.3	124.5	124.8	125.8
Wholesale & Retail Trade	566.2	571.3	583.5	600.4	616.2
Finance, Insurance, etc.	150.4	159.0	165.0	170.4	175.1
Services & Miscellaneous	601.8	638.5	665.3	687.2	711.2
Government	416.7	410.5	391.6	376.0	369.6
Federal	58.0	58.3	57.1	55.8	54.7
State	94.0	97.8	96.2	90.1	86.8
Local	264.7	254.4	238.2	230.0	228.1
Nonag. Wage & Sal. Employ.*	2603.4	2648.3	2668.2	2714.8	2790.0
As % of U.S.	2.90	2.92	2.91	2.90	2.91

*EMPLOYMENT REVIEW Concept.

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OCTOBER CONTROL FORECAST (T5)

MASSACHUSETTS EMPLOYMENT, POPULATION, AND LABOR FORCE
(Thousands of People, Seasonally Adjusted)

	1979	1980	1981	1982	1983
Nonag. Wage & Sal. Employ.*	2603.4	2648.3	2658.2	2714.8	2790.0
Plus: All Other Nonag.	163.8	163.6	163.7	169.4	175.4
Plus: Agriculture	26.6	27.3	26.6	28.6	28.6
Total Mass. Jobs	2793.8	2839.2	2858.5	2912.8	2994.0
Less: Adjustments**	63.0	108.4	81.7	57.6	57.6
Total Employment***	2730.8	2730.8	2776.8	2855.2	2936.4
As % of U.S.	2.82	2.81	2.81	2.83	2.84
Mass. Population	5746.0	5737.0	5731.1	5740.7	5748.4
As % of U.S.	2.60	2.58	2.55	2.53	2.51
Mass. Popuin. 16 and Over	4368.7	4413.2	4451.8	4471.8	4480.9
Mass. Employment Rate****	59.6	60.0	59.9	60.7	62.3
Indexed to 1973	104.8	105.5	105.4	106.8	109.5
U.S. Employment Rate	54.0	53.7	53.8	54.2	55.0
Mass. Index Rel. To U.S.	99.0	100.2	100.0	100.5	101.6
Labor Force	2890.9	2893.5	2956.6	3040.1	3111.5
Participation Rate	66.2	65.6	66.4	68.0	69.4
U.S. Participation Rate	61.9	62.1	62.5	63.1	63.7
Number of Unemployed	160.1	162.7	179.9	184.9	175.1
Unemployment Rate	5.5	5.6	6.1	6.1	5.6
U.S. Unemployment Rate	5.8	7.1	7.4	7.4	7.1

*EMPLOYMENT REVIEW concept.
**Adjustments for double counting and place of residence.
***MASSACHUSETTS TRENDS concept.
****Total employment divided by the population sixteen and over.

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OCTOBER CONTROL FORECAST (T5)

MANUFACTURING EMPLOYMENT IN MASSACHUSETTS
(Thousands of People)

	1979	1980	1981	1982	1983
Manufacturing	672.0	673.1	669.0	684.6	708.4
As % of U.S.	3.19	3.32	3.27	3.27	3.31
Durables	401.1	409.7	411.4	426.0	445.6
Lumber, Furniture (24/25)	13.9	13.4	13.3	12.9	13.2
Stone, Clay, Glass (32)	13.7	13.1	12.6	12.8	13.6
Primary Metals (33)	17.6	17.3	16.8	17.3	17.9
Fabricated Metals (34)	55.1	54.1	52.9	53.8	55.7
Non-elec. Machin. (35)	101.6	109.6	110.6	115.5	121.6
Engines & Turbines (351)	5.8	6.5	6.5	7.0	7.5
Metalworking Mach. (354)	17.5	17.7	16.8	17.3	17.9
Spec. Industry M. (355)	17.8	16.8	15.5	15.3	15.6
Gen. Industrial M. (356)	9.0	9.6	9.6	10.1	10.5
Off. & Comput. M. (357)	39.4	46.4	49.5	52.5	55.8
Rest of Industry	12.2	12.5	12.5	13.4	14.3
Elec. Equipment (36)	104.6	109.4	111.9	115.9	122.4
Electronic Compon. (367)	44.4	47.3	48.3	51.1	55.9
Rest of Industry	60.1	62.1	63.5	64.8	66.5
Transport. Equip. (37)	37.0	35.4	33.6	34.5	35.2
Mot. Vehicles & P. (371)	6.3	6.3	6.1	6.7	6.9
Aircraft & Parts (372)	10.2	10.6	10.2	9.7	9.8
Rest of Industry	20.5	18.5	17.3	18.1	18.5
Instruments (38)	57.5	57.6	59.8	63.2	66.0
Meas. & Control (382)	18.1	19.1	20.6	22.2	23.4
Rest of Industry	39.3	38.5	39.2	41.0	42.6
Nondurables	270.9	263.4	257.5	258.6	262.8
Food (20)	28.2	27.4	26.2	25.9	25.9
Textiles (22)	27.1	25.4	24.9	25.2	25.6
Apparel (23)	40.7	39.8	37.5	36.1	36.9
Paper (26)	29.8	28.9	28.4	28.4	28.8
Printing (27)	44.0	43.7	43.5	43.9	44.2
Chemicals (28)	18.2	18.3	17.7	17.8	18.4
Synthet. Materials (282)	5.6	5.7	5.5	5.6	5.9
Rest of Industry	12.6	12.6	12.3	12.2	12.5
Rubber (30)	32.5	31.0	30.8	31.9	33.4
Leather (31)	22.2	20.8	20.2	20.1	19.7
Other Nondurables (39)	28.3	28.2	28.2	29.2	29.8

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OCTOBER CONTROL FORECAST (T5)

MANUFACTURING EMPLOYMENT IN MASSACHUSETTS
(AS A PER CENT OF U.S. EMPLOYMENT)

	1979	1980	1981	1982	1983
Manufacturing	3.19	3.32	3.27	3.27	3.31
Durables	3.14	3.36	3.35	3.38	3.43
Lumber (24)	.70	.76	.76	.72	.72
Furniture (25)	1.70	1.73	1.66	1.57	1.57
Stone, Clay, Glass (32)	1.94	1.97	1.93	1.93	1.94
Primary Metals (33)	1.41	1.51	1.48	1.50	1.52
Fabricated Metals (34)	3.21	3.36	3.31	3.28	3.28
Non-elec. Machin. (35)	4.09	4.39	4.36	4.40	4.48
Engines & Turbines (351)	4.01	4.81	4.91	4.95	5.01
Metalworking Mach. (354)	4.75	4.76	4.59	4.49	4.48
Spec. Industry M. (355)	8.66	8.05	7.52	7.30	7.27
Gen. Industrial M. (356)	2.73	3.00	2.80	2.68	2.72
Off. & Comput. M. (357)	9.92	10.80	11.00	11.25	11.56
Rest of Industry Group	1.17	1.22	1.21	1.27	1.32
Elec. Equipment (36)	4.94	5.20	5.21	5.31	5.46
Electronic Compon. (367)	8.48	8.47	8.58	8.86	8.99
Rest of Industry Group	3.77	4.02	4.01	4.03	4.11
Transport. Equip. (37)	1.78	1.89	1.79	1.75	1.74
Mot. Vehicles & P. (371)	.63	.83	.83	.82	.82
Aircraft & Parts (372)	1.67	1.62	1.50	1.47	1.46
Rest of Industry Group	4.27	4.02	3.75	3.66	3.56
Instruments (38)	8.32	8.13	8.27	8.40	8.63
Meas. & Control (382)	7.69	7.89	8.20	8.35	8.57
Rest of Industry Group	8.64	8.25	8.30	8.43	8.66
Nondurables	3.27	3.24	3.16	3.12	3.12
Food (20)	1.63	1.60	1.56	1.54	1.53
Textiles (22)	3.06	2.98	2.93	2.91	2.92
Apparel (23)	3.12	3.15	2.97	2.75	2.74
Paper (26)	4.22	4.16	4.10	4.06	4.07
Printing (27)	3.56	3.47	3.38	3.35	3.32
Chemicals (28)	1.64	1.65	1.60	1.60	1.62
Synthet. Materials (282)	2.65	2.76	2.69	2.68	2.74
Rest of Industry Group	1.40	1.39	1.35	1.35	1.36
Rubber (30)	4.15	4.24	4.09	4.09	4.18
Leather (31)	9.02	8.93	8.50	8.27	8.25
Other Nondurables (39)	6.35	6.74	6.75	6.86	6.94

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OCTOBER CONTROL FORECAST (T5)

PERSONAL INCOME IN MASSACHUSETTS
(Millions of Dollars at Seasonally Adjusted Annual Rates)

	1979	1980	1981	1982	1983
INCOME BY PLACE OF WORK					
Wage & Sal. Disbursements	33282	36356	39812	43627	48161
Other Labor Income	3244	3782	4191	4750	5323
Proprietors' Income	2344	2480	2586	2791	3090
Total Labor & Propr. Inc.	38870	42618	46589	51168	56574
Breakdown by Industry:					
Farm	105	97	99	113	120
Manufacturing	11331	12278	13413	14844	16552
Durables	7810	8618	9500	10589	11898
Nondurables	3521	3660	3914	4254	4654
Construction	1559	1662	1706	1899	2349
Trade	6272	6890	7773	8607	9471
Finance,Ins.,& R.E.	2465	2849	3189	3553	3917
Transportation & Util.	2569	2870	3158	3431	3724
Services & Misc.	8911	10037	11196	12414	13763
Government	5659	5935	6053	6307	6678
Federal	1355	1426	1554	1659	1769
State & Local	4304	4509	4499	4649	4909
DERIVATION OF PERSONAL INCOME BY PLACE OF RESIDENCE					
Total L&P, Place of Work	38870	42618	46589	51168	56574
Less: Soc. Insr. Contr.	1951	2172	2533	2771	3073
Plus: Residence Adjmt.	-253	-282	-310	-338	-366
Plus: Div.,Int., & Rent	7352	8602	9960	11088	12187
Plus: Transfer Payments	7332	8477	9754	10316	10698
State Unempl. Benefits	266	339	405	448	455
All Other Transfers	7067	8138	9348	9868	10244
Personal Inc., Pl of Res.	51350	57243	63459	69464	76021
Less: Fed. Income Tax	6012	6717	7643	8004	8135
Less: Mass. Income Tax	1737	1935	2150	2379	2653
Less: Other Mass. Taxes	589	667	755	829	904
Dispos. P.I., Pl of Res.	43012	47923	52911	58251	64329
Boston CPI, 1967 = 100	212.9	240.0	267.1	287.2	309.4
Real D.P.I., '67 Dollars	20202	19974	19807	20278	20789
Real D.P.I., Per Capita	3.516	3.482	3.456	3.532	3.616
% Change	.6	-1.0	-.7	2.2	2.4

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OCTOBER CONTROL FORECAST (T5)

SUMMARY REPORT
MASSACHUSETTS EARNED FAMILY INCOME DISTRIBUTION MODEL
OF ANNUALIZED WORKING-PERIOD EARNINGS

	1979	1980	1981	1982	1983
Per Cent of Families with Female Head	15.47	15.96	16.45	16.94	17.43
Per Cent of Named Group without Earnings					
All Families	8.99	8.84	8.93	8.86	8.54
Male Headed Fams.	4.76	4.78	4.94	4.92	4.81
Female Headed Fams.	32.14	30.20	29.21	28.13	26.22
No. of Families (CCC)	1300.4	1307.4	1311.3	1317.2	1322.0
With Earnings	1183.5	1191.9	1194.2	1200.6	1209.1
Without Earnings	116.9	115.6	117.1	116.6	112.9
Average Earnings of All Families					
In Nominal Dollars	22503	24399	26430	28265	30990
In 1972 Dollars	13436	12927	12624	12738	12964
Average Earnings of Those with Earnings					
In Nominal Dollars	24726	26766	29023	31011	33883
In 1972 Dollars	14764	14181	13862	13976	14175
Total Earnings (mil $)	29265	31901	34658	37232	40970
As % of WSD	87.93	87.75	87.70	87.54	87.17
Displaced Log-Normal Parameters (Families with Earnings)					
Gini Coefficient	.3202	.3224	.3240	.3238	.3230
Displacement	.4994	.5051	.5427	.5388	.5117
Standard Deviation	.3823	.3835	.3758	.3765	.3825
Mean -- Nom. $ Dist.	10.45	10.53	10.64	10.70	10.77
Mean -- 1972 $ Dist.	9.93	9.89	9.90	9.91	9.90
EXPLANATORY VARIABLES					
Population 18 thru 64	3492.9	3511.8	3522.2	3538.0	3550.9
Tot. Nonag. Employment	2603.4	2648.3	2668.2	2714.8	2790.0
M & R Emp. (% of Tot.)	30.44	30.03	29.75	29.77	29.91
Female Employment	1068.5	1096.3	1111.6	1130.4	1160.8
As % of Popul. 18-64	30.59	31.22	31.56	31.95	32.69
No. Employed per Fam.	2.200	2.222	2.227	2.246	2.292
Unemployment Rate	5.5	5.6	6.1	6.1	5.6
Wage/Sal Disbursements	33282	36356	39812	43627	48161
WSD per Employee	12.783	13.729	14.859	15.767	16.957
Wage Acceleration	NA	NA	NA	NA	NA
C.P.I. (Boston)	212.9	240.0	267.1	287.2	309.4

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OCTOBER CONTROL FORECAST (T5)

PER CENT OF MASSACHUSETTS FAMILIES
WITH EARNED FAMILY INCOME IN GIVEN NOMINAL DOLLAR CLASSES
(MEFID MODEL OF ANNUALIZED WORKING-PERIOD EARNINGS)

	1979	1980	1981	1982	1983
EARNINGS CLASS: (Nominal Dollars)					
$0	8.99	8.84	8.93	8.86	8.54
1 and over	91.01	91.16	91.07	91.14	91.46
$1 - 999	.59	.62	.69	.66	.58
1000 - 1999	.40	.37	.35	.32	.27
2000 - 2999	.57	.51	.47	.42	.35
3000 - 3999	.76	.67	.60	.54	.45
4000 - 4999	.98	.86	.75	.66	.55
5000 - 5999	1.21	1.05	.91	.80	.66
6000 - 6999	1.45	1.25	1.07	.94	.78
7000 - 7999	1.69	1.46	1.24	1.09	.91
8000 - 8999	1.92	1.66	1.41	1.23	1.03
9000 - 9999	2.14	1.85	1.57	1.38	1.16
10000 - 10999	2.33	2.02	1.72	1.52	1.28
11000 - 11999	2.51	2.18	1.87	1.65	1.40
12000 - 12999	2.65	2.33	2.00	1.78	1.52
13000 - 13999	2.77	2.45	2.12	1.89	1.63
14000 - 14999	2.86	2.55	2.22	1.99	1.72
15000 - 19999	14.71	13.46	12.04	11.02	9.76
20000 - 24999	13.56	13.04	12.25	11.59	10.69
25000 - 34999	19.43	20.12	20.39	20.32	19.95
35000 - 49999	12.96	15.06	17.12	18.53	20.09
50000 and over	5.51	7.66	10.30	12.82	16.68
20000 and over	51.46	55.88	60.05	63.26	67.42
$0 - 1000	9.59	9.46	9.62	9.52	9.12
0 - 2000	9.99	9.83	9.97	9.84	9.39
0 - 4000	11.31	11.01	11.05	10.79	10.18
0 - 6000	13.50	12.92	12.71	12.25	11.40
0 - 9000	18.57	17.28	16.43	15.51	14.11
0 - 12000	25.54	23.34	21.58	20.06	17.96
0 - 15000	33.82	30.66	27.91	25.72	22.82
0 - 20000	48.54	44.12	39.95	36.74	32.58
0 - 25000	62.10	57.16	52.20	48.33	43.28
0 - 35000	81.53	77.28	72.59	68.65	63.23
0 - 50000	94.49	92.34	89.70	87.18	83.32

OCTOBER CONTROL FORECAST (T5)

SUMMARY REPORT
MASSACHUSETTS ECONOMIC POLICY ANALYSIS MODEL
(Seasonally Adjusted Annual Rates)

	1981:1	1981:2	1981:3	1981:4	1982:1	1982:2
Employment--Nonag. W. & S.	2684	2676	2643	2670	2689	2710
% Change	4.0	-1.2	-4.9	4.2	2.9	3.2
Manufacturing	669	673	664	670	676	681
% Change	1.9	2.6	-5.5	3.7	3.4	3.4
Non-Manufacturing	2015	2003	1979	2000	2014	2029
% Change	4.7	-2.4	-4.7	4.3	2.7	3.1
Unemployment Rate	5.7	5.9	6.6	6.1	6.2	6.0
Employment Rate Index*	106.3	105.8	104.3	105.2	105.9	106.6
% Change	3.1	-1.9	-5.7	3.7	2.5	2.7
Relative to U.S. Index*	101.1	100.5	98.8	99.6	100.1	100.6
Rate of Wage Change	7.4	9.2	9.7	6.8	6.9	7.7
Wage Index Rel. to U.S.*	93.6	93.8	94.0	94.1	94.2	94.4
Avg. Weekly Hours in Mfg.	40.2	40.3	40.1	40.3	40.3	40.4
Rate of Price Inflation	17.1	7.1	10.9	5.9	6.9	7.3
Relative to U.S. CPI*	97.2	97.1	97.0	96.6	96.6	96.5
Personal Income (mil$)	61398	62865	64050	65523	66962	68555
% Change	13.8	9.9	7.8	9.5	9.1	9.9
Disposable Income (mil$)	51226	52339	53285	54796	55919	57138
% Change	13.2	9.0	7.4	11.8	8.5	9.0
Real Per Cap. D.I. Index*	105.3	105.8	105.0	106.3	106.6	107.0
Relative to U.S.*	104.1	104.7	103.8	104.5	104.9	105.2
Rel. Business Cost Index*	96.1	96.0	95.7	95.7	95.7	95.7
Manufacturing*	95.4	95.1	94.7	94.6	94.6	94.7
Non-Manufacturing*	96.4	96.4	96.2	96.1	96.1	96.2

*Indexes equal 100 in calendar 1973.

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OCTOBER CONTROL FORECAST (T5)

EMPLOYMENT IN MASSACHUSETTS--INDUSTRY DETAIL
(Thousands of People, Seasonally Adjusted)

	1981:1	1981:2	1981:3	1981:4	1982:1	1982:2
Manufacturing	669.0	673.2	663.8	669.9	675.5	681.1
As % of U.S.	3.31	3.30	3.23	3.25	3.26	3.27
Durables	409.4	412.7	409.3	414.3	418.8	423.3
Lumber, Furntr. (24/25)	13.8	13.8	12.8	12.7	12.7	12.8
Stone, Clay, etc. (32)	12.8	12.6	12.6	12.5	12.6	12.7
Primary Metals (33)	16.9	17.0	16.7	16.8	16.9	17.2
Fabricated Metals (34)	53.2	52.7	52.8	52.8	53.1	53.5
Non-elec. Machin. (35)	109.7	110.4	110.2	112.0	113.7	114.9
Elec. Equipment (36)	110.0	112.2	112.3	113.0	113.9	115.0
Transport. Equip. (37)	34.3	34.2	32.3	33.6	34.0	34.4
Instruments (38)	58.8	59.8	59.7	60.9	62.0	62.9
Nondurables	259.5	260.5	254.5	255.6	256.7	257.8
Food (20)	26.5	26.7	25.8	25.8	25.8	25.9
Textiles (22)	24.9	24.8	24.8	24.9	25.0	25.1
Apparel (23)	39.5	40.0	35.2	35.4	35.7	36.0
Paper (26)	28.8	28.6	28.3	28.2	28.2	28.3
Printing (27)	43.6	43.4	43.5	43.5	43.6	43.8
Chemicals (28)	18.1	17.9	17.5	17.5	17.6	17.8
Rubber (30)	30.7	30.9	30.6	31.0	31.4	31.7
Leather (31)	20.0	20.3	20.3	20.3	20.3	20.1
Other Nondurables (39)	27.4	28.0	28.5	28.8	29.0	29.1
Nonmanufacturing	2014.9	2002.9	1979.2	2000.1	2013.6	2028.9
Contract Construction	76.8	68.8	65.5	66.2	67.8	70.0
Transport & Utilities	125.2	125.5	123.3	123.8	124.3	124.8
Wholesale & Retail Trade	581.0	580.7	583.6	588.8	593.7	599.1
Finance, Insurance, etc.	162.1	163.4	167.2	167.5	168.6	170.0
Services & Miscellaneous	661.4	664.5	664.1	671.4	677.9	684.7
Government	408.4	400.0	375.4	382.5	381.4	380.4
Federal	58.2	57.1	56.8	56.5	56.2	56.0
State	99.0	100.0	93.0	92.9	91.9	90.9
Local	251.3	242.8	225.6	233.1	233.2	233.5
Nonag. Wage & Sal. Employ.*	2683.9	2676.1	2642.9	2670.0	2689.1	2710.0
As % of U.S.	2.94	2.92	2.87	2.89	2.90	2.91

*EMPLOYMENT REVIEW Concept.

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OCTOBER CONTROL FORECAST (T5)

MASSACHUSETTS EMPLOYMENT, POPULATION, AND LABOR FORCE
(Thousands of People, Seasonally Adjusted)

	1981:1	1981:2	1981:3	1981:4	1982:1	1982:2
Nonag. Wage & Sal. Employ.*	2683.9	2676.1	2642.9	2670.0	2689.1	2710.0
Plus: All Other Nonag.	162.6	162.4	164.1	165.6	167.1	168.7
Plus: Agriculture	25.9	24.4	27.4	28.6	28.6	28.6
Total Mass. Jobs	2872.4	2862.9	2834.4	2864.2	2884.8	2907.4
Less: Adjustments**	93.1	118.6	57.6	57.6	57.6	57.6
Total Employment***	2779.3	2744.3	2776.8	2806.6	2827.2	2849.8
As % of U.S.	2.84	2.78	2.80	2.83	2.83	2.83
Mass. Population	5731.0	5730.0	5729.4	5733.9	5736.6	5741.1
As % of U.S.	2.56	2.56	2.55	2.55	2.54	2.54
Mass. Populn. 16 and Over	4439.3	4448.0	4457.3	4462.6	4466.6	4471.9
Mass. Employment Rate****	60.5	60.2	59.3	59.8	60.2	60.6
Indexed to 1973	106.3	105.8	104.3	105.2	105.9	106.6
U.S. Employment Rate	53.7	53.7	53.8	53.9	53.9	54.1
Mass. Index Rel. To U.S.	101.1	100.5	98.8	99.6	100.1	100.6
Labor Force	2946.3	2916.3	2973.5	2990.4	3012.5	3032.4
Participation Rate	66.4	65.6	66.7	67.0	67.4	67.8
U.S. Participation Rate	62.3	62.6	62.5	62.7	62.9	63.0
Number of Unemployed	167.0	172.0	196.6	183.8	185.3	182.6
Unemployment Rate	5.7	5.9	6.6	6.1	6.2	6.0
U.S. Unemployment Rate	7.3	7.4	7.2	7.6	7.7	7.5

*EMPLOYMENT REVIEW concept.
**Adjustments for double counting and place of residence.
***MASSACHUSETTS TRENDS concept.
****Total employment divided by the population sixteen and over.

Data Resources Forecast of the U.S. Economy - CONTROL092381

	1980	1981				1982				Years			
	IV	I	II	III	IV	I	II	III	IV	1980	1981	1982	1983
GNP and Its Components Billions of Dollars - SAAR													
Total Consumption	1751.0	1810.1	1829.1	1882.3	1928.6	1976.6	2026.1	2083.3	2139.7	1672.7	1862.5	2056.4	2261.7
Nonres. Fixed Investment	302.1	315.9	324.6	329.2	334.8	342.7	352.6	364.9	378.0	295.9	326.1	359.5	406.6
Res. Fixed Investment	113.0	116.7	110.7	107.8	104.6	113.4	124.1	135.0	145.0	105.3	109.9	129.4	165.5
Inventory Investment	-17.4	4.5	23.3	2.4	7.0	12.8	15.1	16.9	22.5	-5.9	9.3	16.8	21.0
Net Exports	23.3	29.2	20.8	23.6	23.0	15.1	13.4	13.6	12.4	23.3	24.2	13.6	14.4
Federal Purchases	212.0	221.6	219.5	224.8	234.5	239.5	241.5	245.2	255.5	198.9	225.1	245.4	269.3
State and Local Govt. Purchases	346.6	354.9	357.9	366.3	376.4	381.5	388.4	396.5	403.4	335.8	363.9	392.4	419.6
Gross National Product	2730.6	2853.0	2885.8	2936.6	3008.8	3081.7	3161.1	3255.3	3356.4	2626.1	2921.1	3213.6	3558.1
Real GNP (1972 Dollars)	1485.6	1516.4	1510.4	1506.2	1509.3	1519.8	1532.5	1550.5	1566.1	1480.7	1510.6	1542.2	1592.1
Prices and Wages - Annual Rates of Change													
Implicit Price Deflator	10.7	9.8	6.4	8.4	9.3	7.1	7.1	7.3	8.6	9.0	9.0	7.7	7.3
CPI - All Urban Consumers	12.9	10.8	7.5	11.4	7.8	7.0	7.4	7.9	7.7	13.5	10.2	7.9	7.6
Producer Price Index - Finished Goods	8.8	10.7	8.7	5.2	7.6	7.1	6.9	7.5	8.1	13.5	9.4	7.1	7.8
Compensation per Hour	9.7	11.4	9.8	9.3	9.0	9.0	8.6	8.5	8.5	9.9	10.1	8.9	8.4
Core Inflation	9.2	9.2	9.1	8.7	8.3	7.9	7.6	7.4	7.3	9.1	8.8	7.6	7.2
Production and Other Key Measures													
Industrial Production (1967=1.000)	1.487	1.518	1.525	1.530	1.543	1.562	1.582	1.610	1.635	1.470	1.529	1.597	1.674
Annual Rate of Change	19.3	8.4	1.9	1.3	3.4	5.2	5.1	7.3	6.2	-3.6	4.0	4.5	4.8
Housing Starts (Mil. Units)	1.535	1.391	1.176	0.974	1.113	1.342	1.415	1.553	1.616	1.303	1.164	1.482	1.727
Retail Unit Car Sales (Mil. Units)	9.1	10.1	7.8	9.3	8.4	9.6	9.9	10.4	10.6	9.0	8.9	10.1	10.7
Unemployment Rate (%)	7.5	7.3	7.4	7.2	7.6	7.7	7.5	7.3	7.2	7.1	7.4	7.4	7.1
Federal Budget Surplus (NIA)	-67.9	-46.6	-47.2	-62.8	-71.2	-59.4	-46.0	-70.9	-56.0	-61.2	-57.0	-58.1	-59.8
Money and Interest Rates													
Money Supply (M-1B)	417.2	422.3	431.6	431.8	439.8	443.1	445.7	454.3	459.4	417.2	439.8	459.4	477.6
Annual Rate of Change	11.4	5.0	9.1	0.2	7.6	3.0	2.4	7.9	4.6	7.3	5.4	4.5	4.0
New AA Corp. Utility Rate (%)	14.20	15.04	16.16	16.66	15.51	14.76	14.98	14.87	14.22	13.14	15.84	14.71	12.96
New High-Grade Corp. Bond Rate (%)	13.78	14.00	14.56	15.92	14.79	14.06	14.29	14.18	13.55	12.47	14.82	14.02	12.37
Federal Funds Rate (%)	15.85	16.57	17.78	17.52	14.76	15.85	17.06	16.79	15.75	13.36	16.66	16.36	13.34
Prime Rate (%)	16.73	19.21	18.93	20.21	17.67	18.02	18.67	18.54	17.65	15.27	19.01	18.22	15.32
Incomes - Billions of Dollars													
Personal Income	2256.4	2319.7	2368.5	2442.2	2496.6	2547.7	2603.3	2672.5	2741.4	2160.3	2406.8	2641.3	2895.1
Real Disposable Income (%Ch)	2.9	3.0	1.4	4.3	4.1	0.7	1.4	9.2	2.5	0.7	2.5	3.1	3.6
Saving Rate (%)	5.1	4.6	5.4	5.5	5.8	5.3	4.8	5.9	5.6	5.6	5.3	5.4	6.0
Profits Before Tax	249.5	257.0	229.0	217.9	229.8	237.4	249.5	265.6	281.3	245.5	233.4	258.4	291.0
Profits After Tax	164.3	169.2	152.7	146.3	153.9	158.6	166.2	176.3	186.3	163.2	155.5	171.8	194.4
Company Profits	108.5	106.6	108.5	112.5	114.5	112.3	114.8	119.8	124.8	106.0	110.5	117.9	134.7
Four-Qtr. Percent Change	1.5	-9.3	12.8	10.6	5.5	5.3	5.8	6.5	8.9	0.2	4.3	6.7	14.2
Composition of Real GNP - Annual Rates of Change													
Gross National Product	3.8	8.6	-1.6	-1.1	0.8	2.8	3.4	4.8	4.1	-0.2	2.0	2.1	3.2
Final Sales	4.3	6.9	-4.7	1.5	0.3	2.1	3.2	4.6	3.5	0.7	1.6	1.9	3.2
Total Consumption	7.0	5.8	-2.1	3.7	2.8	3.0	3.4	4.5	3.9	0.5	2.9	3.1	2.9
Nonres. Fixed Investment	3.9	13.4	-2.2	-1.5	-0.8	1.1	4.1	7.1	7.5	-3.0	1.6	1.9	5.5
Equipment	1.9	11.8	-5.9	-1.8	-0.6	1.5	5.2	8.9	8.9	-4.2	0.8	2.3	6.3
Nonres. Construction	9.0	16.6	6.7	-1.3	-1.3	0.2	1.6	3.1	4.4	-0.1	3.5	1.0	3.6
Res. Fixed Investment	64.2	3.2	-22.8	-15.4	-18.1	25.7	31.1	27.7	21.8	-18.6	-2.3	8.0	17.4
Exports	-7.5	13.6	-2.4	-3.4	-2.3	-1.8	2.3	4.6	6.1	9.6	-0.2	-0.1	5.8
Imports	25.9	10.3	14.3	2.1	4.1	5.0	6.5	8.1	8.5	-0.1	5.4	5.9	5.7
Federal Government	1.9	14.9	-8.7	3.8	-7.2	4.0	0.3	3.1	-5.4	6.4	1.1	-0.4	1.2
State and Local Governments	2.4	0.2	-3.9	1.0	2.7	-2.6	-0.6	0.6	-0.7	1.0	-0.1	-0.4	-0.9

Alternative Simulation - RECESSION092481

	1981				1982				Years			
	I	II	III	IV	I	II	III	IV	1980	1981	1982	1983
GNP and Its Components Billions of Dollars - SAAR												
Total Consumption	1810.1	1829.1	1881.5	1908.1	1936.9	1980.9	2032.2	2084.8	1672.7	1857.2	2008.7	2232.3
Nonres. Fixed Investment	315.9	324.6	326.7	320.9	321.2	334.0	348.7	364.3	295.9	322.0	342.0	404.6
Res. Fixed Investment	116.7	110.7	107.8	100.0	102.1	112.0	131.5	151.2	105.3	108.8	124.2	183.8
Inventory Investment	4.5	23.3	2.3	3.0	-0.3	4.4	8.1	15.7	-5.9	8.3	7.0	32.7
Net Exports	29.2	20.8	24.1	28.0	24.0	23.8	24.2	22.6	23.3	25.5	23.6	19.1
Federal Purchases	221.6	219.5	224.8	234.5	239.5	241.5	245.2	255.5	198.9	225.1	245.4	269.3
State and Local Govt. Purchases	354.9	357.9	366.5	378.2	383.8	389.7	396.8	402.5	335.8	364.4	393.2	417.9
Gross National Product	2853.0	2885.8	2933.6	2972.7	3007.2	3086.2	3186.8	3296.7	2626.1	2911.3	3144.2	3559.6
Real GNP (1972 Dollars)	1516.4	1510.4	1504.7	1490.8	1484.5	1499.1	1521.8	1542.7	1480.7	1505.6	1512.0	1596.5
Prices and Wages - Annual Rates of Change												
Implicit Price Deflator	9.8	6.4	8.4	9.4	6.5	6.7	7.1	8.4	9.0	9.0	7.5	7.2
CPI - All Urban Consumers	10.8	7.5	11.4	7.6	5.9	5.3	6.2	7.2	13.5	10.2	7.0	7.6
Producer Price Index - Finished Goods	10.7	8.7	5.2	7.3	6.1	5.4	6.1	7.2	13.5	9.4	6.3	7.6
Compensation per Hour	11.4	9.8	9.3	8.5	8.4	8.5	8.3	8.2	9.9	10.1	8.6	8.1
Core Inflation	9.2	9.1	8.7	8.3	7.9	7.5	7.3	7.2	9.1	8.8	7.5	6.9
Production and Other Key Measures												
Industrial Production (1967=1.000)	1.518	1.525	1.526	1.511	1.501	1.524	1.560	1.594	1.470	1.520	1.545	1.686
Annual Rate of Change	8.4	1.9	0.2	-3.8	-2.6	6.3	9.9	9.0	-3.6	3.4	1.6	9.1
Housing Starts (Mil. Units)	1.391	1.176	0.974	0.869	1.026	1.346	1.626	1.836	1.303	1.102	1.459	2.013
Retail Unit Car Sales (Mil. Units)	10.1	7.8	9.3	7.8	8.3	8.4	8.8	8.8	9.0	8.7	8.6	9.8
Unemployment Rate (%)	7.3	7.4	7.2	7.9	8.3	8.4	8.3	8.0	7.1	7.5	8.3	7.3
Federal Budget Surplus (NIA)	-46.6	-47.2	-63.5	-81.7	-80.1	-66.6	-87.1	-67.3	-61.2	-59.7	-75.3	-49.0
Money and Interest Rates												
Money Supply (M-1B)	422.3	431.6	431.6	439.4	439.5	440.4	445.7	448.8	417.2	439.4	448.8	473.9
Annual Rate of Change	5.0	9.1	0.0	7.4	0.1	0.9	4.9	2.8	7.3	5.3	2.2	5.6
New AA Corp. Utility Rate (%)	15.04	16.16	16.69	16.10	13.21	12.26	12.00	11.94	13.14	16.00	12.35	12.42
New High-Grade Corp. Bond Rate (%)	14.00	14.56	15.95	15.36	12.55	11.67	11.45	11.41	12.47	14.96	11.77	11.89
Federal Funds Rate (%)	16.57	17.78	17.45	13.67	11.83	11.18	10.54	11.04	13.36	16.37	11.15	11.35
Prime Rate (%)	19.21	18.93	20.16	15.79	14.05	13.21	12.83	13.22	15.27	18.52	13.33	13.46
Incomes - Billions of Dollars												
Personal Income	2319.7	2368.5	2440.9	2479.7	2509.5	2561.3	2630.1	2701.1	2160.3	2402.2	2600.5	2876.2
Real Disposable Income (%Ch)	3.0	1.4	4.1	1.3	-2.1	1.5	9.8	3.4	0.7	2.3	2.0	4.8
Saving Rate (%)	4.6	5.4	5.5	6.2	5.9	5.6	6.9	6.7	5.6	5.4	6.3	6.6
Profits Before Tax	257.0	229.0	216.7	217.2	212.7	225.9	246.1	267.6	245.5	230.0	238.1	306.8
Profits After Tax	169.2	152.7	145.4	145.5	142.9	151.4	164.1	177.5	163.2	153.2	159.0	203.5
Company Profits	106.6	108.5	112.1	110.9	105.1	107.8	113.6	119.7	106.0	109.5	111.6	136.4
Four-Qtr. Percent Change	-9.3	12.8	10.2	2.2	-1.4	-0.6	1.3	8.0	0.2	3.3	1.9	22.3
Composition of Real GNP - Annual Rates of Change												
Gross National Product	8.6	-1.6	-1.5	-3.7	-1.7	4.0	6.2	5.6	-0.2	1.7	0.4	5.6
Final Sales	6.9	-4.7	1.1	-3.7	-1.3	3.4	5.8	4.8	0.7	1.3	0.4	5.0
Total Consumption	5.8	-2.1	3.6	-1.8	-0.8	3.0	4.1	4.0	0.5	2.6	1.1	4.4
Nonres. Fixed Investment	13.4	-2.2	-4.7	-13.4	-6.3	9.5	12.0	12.0	-3.0	0.4	-1.2	10.7
Equipment	11.8	-5.9	-6.0	-15.1	-4.5	11.1	15.1	13.9	-4.2	-0.7	-0.8	12.4
Nonres. Construction	16.6	6.7	-2.1	-9.7	-10.4	6.3	5.3	7.8	-0.1	2.8	-2.2	6.9
Res. Fixed Investment	3.2	-22.8	-15.5	-29.7	1.5	32.3	72.7	58.1	-18.6	-3.1	5.6	34.5
Exports	13.6	-2.4	-3.4	-2.3	-2.0	1.7	3.8	5.4	9.6	-0.2	-0.4	5.6
Imports	10.3	14.3	1.5	-1.7	0.5	4.3	7.3	8.7	-0.1	5.0	3.1	7.9
Federal Government	14.9	-8.7	3.9	-7.0	4.4	0.7	3.5	-5.2	6.4	1.1	-0.2	1.3
State and Local Governments	0.2	-3.9	1.2	4.7	-1.7	-1.3	-0.2	-1.7	1.0	0.1	0.0	-1.4

81/10/14

OCTOBER PESSIMISTIC FORECAST BASED ON DRI'S "RECESSION092481"

SUMMARY REPORT
MASSACHUSETTS ECONOMIC POLICY ANALYSIS MODEL
(Seasonally Adjusted Annual Rates)

	1980	1981	1982	1983
Employment--Nonag. W. & S.	2648	2662	2674	2789
% Change	1.7	.5	.4	4.3
Manufacturing	673	667	667	709
% Change	.2	-1.0	-.0	6.3
Non-Manufacturing	1975	1996	2007	2080
% Change	2.3	1.0	.6	3.6
Unemployment Rate	5.6	6.3	6.8	5.3
Employment Rate Index*	105.5	105.2	105.2	109.5
% Change	.7	-.3	.0	4.1
Relative to U.S. Index*	100.2	100.0	100.4	101.6
Rate of Wage Change	8.5	9.0	7.4	7.0
Wage Index Rel. to U.S.*	94.0	93.9	94.4	94.6
Avg. Weekly Hours in Mfg.	39.8	40.2	40.3	40.6
Rate of Price Inflation	12.7	11.3	6.5	7.8
Relative to U.S. CPI*	96.0	97.0	96.6	96.7
Personal Income (mil$)	57243	63360	68451	75450
% Change	11.5	10.7	8.0	10.2
Disposable Income (mil$)	47923	52842	57504	63866
% Change	11.4	10.3	8.8	11.1
Real Per Cap. D.I. Index*	106.4	105.5	107.5	110.7
Relative to U.S.*	104.7	104.3	105.3	105.6
Rel. Business Cost Index*	96.4	95.8	95.8	95.9
Manufacturing*	95.9	95.0	94.7	94.8
Non-Manufacturing*	96.6	96.3	96.3	96.4

*Indexes equal 100 in calendar 1973.

81/10/14

OCTOBER PESSIMISTIC FORECAST BASED ON DRI'S "RECESSION092481"

EMPLOYMENT IN MASSACHUSETTS--INDUSTRY DETAIL
(Thousands of People, Seasonally Adjusted)

	1980	1981	1982	1983
Manufacturing	673.1	666.7	666.6	708.8
As % of U.S.	3.32	3.28	3.27	3.31
Durables	409.7	410.0	413.7	445.6
Lumber (24)	5.2	5.3	4.9	5.6
Furniture (25)	8.1	7.9	7.3	7.9
Stone, Clay, etc. (32)	13.1	12.6	12.4	13.7
Primary Metals (33)	17.3	16.7	16.7	17.9
Fabricated Metals (34)	54.1	52.7	52.0	55.2
Non-elec. Machin. (35)	109.6	110.1	112.6	121.7
Elec. Equipment (36)	109.4	111.5	112.0	122.3
Transport. Equip. (37)	35.4	33.4	33.3	35.1
Instruments (38)	57.6	59.7	62.5	66.2
Nondurables	263.4	256.8	252.9	263.3
Food (20)	27.4	26.2	25.6	25.9
Textiles (22)	25.4	24.7	24.3	25.7
Apparel (23)	39.8	37.4	35.2	36.8
Paper (26)	28.9	28.4	27.9	29.0
Printing (27)	43.7	43.4	43.5	44.4
Chemicals (28)	18.3	17.7	17.4	18.4
Rubber (30)	31.0	30.7	31.0	33.2
Leather (31)	20.8	20.2	19.5	19.9
Other Nondurables (39)	28.2	28.1	28.5	30.0
Nonmanufacturing	1975.2	1995.6	2007.2	2079.8
Contract Construction	73.6	68.9	67.8	84.7
Transport & Utilities	122.3	124.1	122.8	125.4
Wholesale & Retail Trade	571.3	582.3	592.5	613.5
Finance, Insurance, etc.	159.0	164.7	168.7	175.5
Services & Miscellaneous	638.5	664.0	679.2	710.8
Government	410.5	391.5	376.2	369.9
Federal	58.3	57.1	55.9	54.8
State	97.8	96.3	90.9	86.9
Local	254.4	238.0	229.4	228.2
Nonag. Wage & Sal. Employ.*	2648.3	2662.3	2673.9	2788.7
As % of U.S.	2.92	2.91	2.90	2.91

*EMPLOYMENT REVIEW Concept.

81/10/15

OCTOBER FESSIMISTIC FORECAST BASED ON DRI'S "RECESSION092481"

SUMMARY REPORT
MASSACHUSETTS ECONOMIC POLICY ANALYSIS MODEL
(Seasonally Adjusted Annual Rates)

	1981:3	1981:4	1982:1	1982:2	1982:3	1982:4	1983:1	1983:2
Employment--Nonag. W. & S.	2641	2648	2645	2664	2679	2707	2741	2778
% Change	-5.1	1.0	-.4	3.0	2.1	4.4	5.1	5.4
Manufacturing	663	662	658	662	669	678	691	706
% Change	-5.9	-.9	-2.0	2.2	4.2	5.8	8.1	8.5
Non-Manufacturing	1978	1986	1987	2003	2010	2029	2050	2072
% Change	-4.8	1.7	.1	3.2	1.5	3.9	4.1	4.4
Unemployment Rate	6.7	6.8	7.3	6.9	6.8	6.3	5.7	5.3
Employment Rate Index*	104.2	104.4	104.2	104.8	105.3	106.4	107.7	109.1
% Change	-5.9	.5	-.8	2.5	2.0	4.2	4.9	5.2
Relative to U.S. Index*	98.8	99.6	100.1	100.5	100.4	100.7	101.0	101.4
Rate of Wage Change	9.7	5.9	6.3	7.9	7.9	7.2	6.3	6.8
Wage Index Rel. to U.S.*	94.0	94.1	94.2	94.4	94.5	94.4	94.4	94.5
Avg. Weekly Hours in Mfg.	40.1	40.1	40.1	40.3	40.4	40.5	40.6	40.7
Rate of Price Inflation	10.8	5.7	5.8	5.2	6.4	7.5	8.3	8.5
Relative to U.S. CPI*	97.0	96.6	96.5	96.5	96.6	96.6	96.6	96.6
Personal Income (mil$)	64021	65157	66097	67522	69249	70938	72580	74479
% Change	7.6	7.3	5.9	8.9	10.6	10.1	9.6	10.9
Disposable Income (mil$)	53265	54538	55296	56390	58532	59797	61267	62706
% Change	7.3	9.9	5.7	8.2	16.1	8.9	10.2	9.7
Real Per Cap. D.I. Index*	104.9	105.9	105.8	106.5	108.8	109.1	109.6	109.8
Relative to U.S.*	103.9	104.6	105.1	105.4	105.4	105.3	105.3	105.5
Rel. Business Cost Index*	95.7	95.7	95.7	95.8	95.9	95.8	95.8	95.9
Manufacturing*	94.7	94.6	94.6	94.7	94.8	94.8	94.7	94.8
Non-Manufacturing*	96.2	96.1	96.2	96.2	96.4	96.3	96.3	96.3

*Indexes equal 100 in calendar 1973.

81/10/14.

THE EFFECT OF PESSIMISTIC NATIONAL INPUTS FROM DRI
(FORECAST BASED ON RECESSION092481 MINUS ONE BASED ON CONTROL092381)

SUMMARY REPORT
MASSACHUSETTS ECONOMIC POLICY ANALYSIS MODEL

	1981	1982	1983
Employment--Nonag. W. & S.*	-5.922	-40.969	-1.360
Manufacturing*	-2.258	-17.928	.472
Non-Manufacturing*	-3.665	-23.041	-1.832
Unemployment Rate (in percentage points)	.181	.763	-.323
Wage Index **	-.057	-.308	-.419
Boston C.P.I. **	-.013	-.919	-.886
Personal Income ***	-98.740	-1012.174	-571.110
Disposable Income ***	-69.341	-747.594	-463.219
Real Per Cap. Disp. Inc. **	-.113	-.350	.188
Rel. Business Cost **	-.003	.023	-.048
Manufacturing **	-.003	.025	-.038
Non-Manufacturing **	-.003	.022	-.052

*Difference in thousands of people.
(i.e. the Alternative minus the Control)
**Difference in per cent.
(i.e. 100*((Alternative-Control)/Control)
***Difference in millions of dollars.
(i.e. Alternative - Control)

81/10/14.

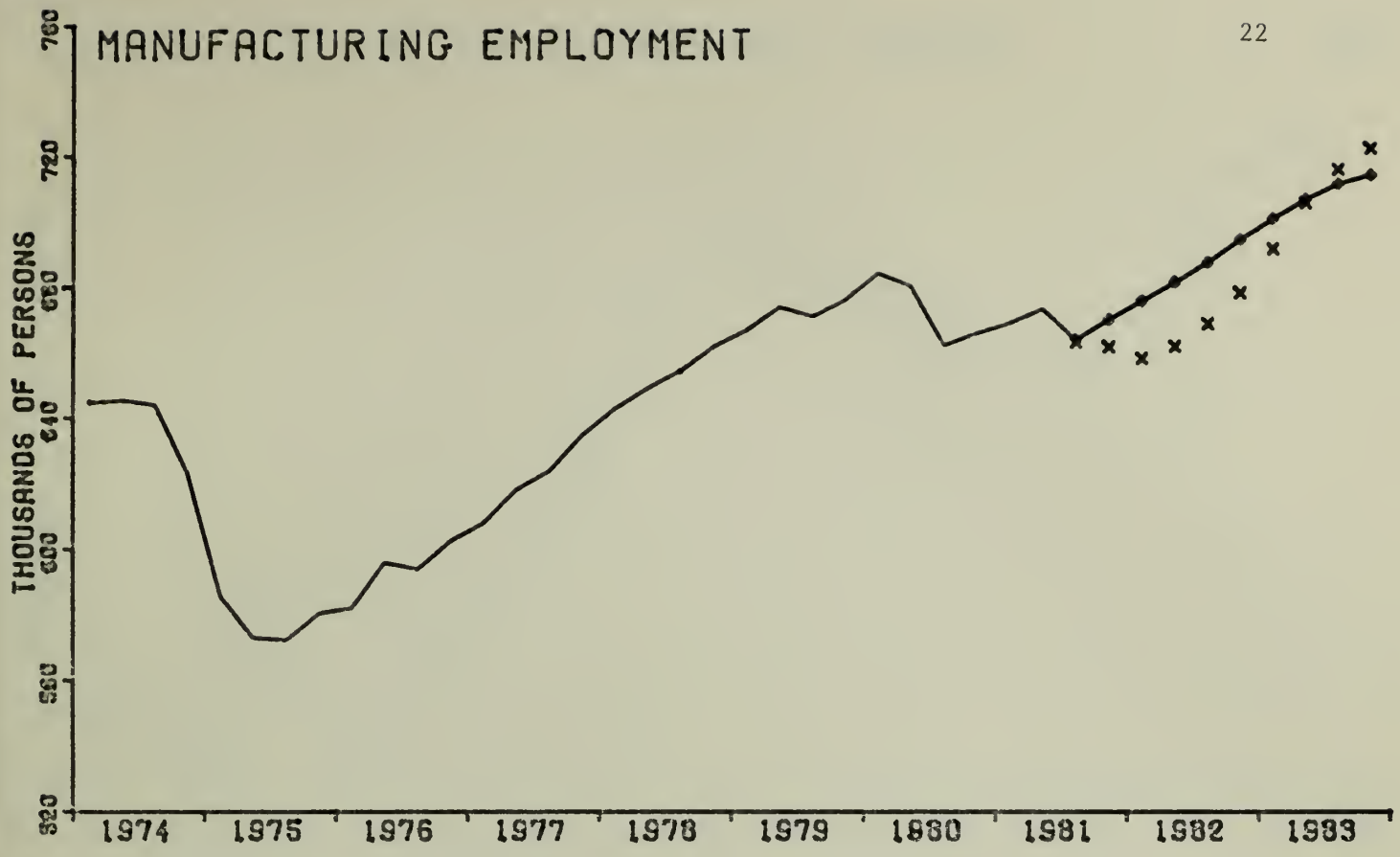
THE EFFECT OF PESSIMISTIC NATIONAL INPUTS FROM DRI
(FORECAST BASED ON RECESSION092481 MINUS ONE BASED ON CONTROL092381)

EMPLOYMENT IN MASSACHUSETTS--INDUSTRY DETAIL
(Thousands of People, Seasonally Adjusted)

	1981	1982	1983
Manufacturing	-2.258	-17.928	.472
Durables	-1.488	-12.246	-.037
Lumber (24)	-.020	-.169	.346
Furniture (25)	-.071	-.475	-.015
Stone, Clay, etc. (32)	-.044	-.390	.122
Primary Metals (33)	-.084	-.557	.013
Fabricated Metals (34)	-.176	-1.851	-.524
Non-elec. Machin. (35)	-.436	-2.982	.107
Elec. Equipment (36)	-.318	-3.884	-.102
Transport. Equip. (37)	-.201	-1.221	-.135
Instruments (38)	-.137	-.716	.153
Nondurables	-.770	-5.682	.509
Food (20)	-.047	-.246	-.003
Textiles (22)	-.119	-.968	.057
Apparel (23)	-.106	-.990	-.142
Paper (26)	-.072	-.479	.196
Printing (27)	-.080	-.337	.164
Cnemicals (28)	-.058	-.399	.033
Rubber (30)	-.119	-.940	-.210
Leather (31)	-.066	-.575	.127
Other Nondurables (39)	-.103	-.749	.287
Nonmanufacturing	-3.665	-23.041	-1.832
Contract Construction	-.459	-3.614	1.025
Transport & Utilities	-.331	-2.042	-.393
Wholesale & Retail Trade	-1.222	-7.919	-2.683
Finance, Insurance, etc.	-.287	-1.639	.344
Services & Miscellaneous	-1.309	-8.050	-.421
Government	-.057	.223	.295
Federal	.002	.045	.095
State	.096	.812	.081
Local	-.155	-.633	.118
Nonag. Wage & Sal. Employ.*	-5.922	-40.969	-1.360

*EMPLOYMENT REVIEW concept.

◆ CONTROL FORECAST
× PESSIMISTIC FORECAST (MASS.)
X PESSIMISTIC FORECAST (U.S.)



◆ CONTROL FORECAST
× PESSIMISTIC FORECAST

◆ CONTROL FORECAST
× PESSIMISTIC FORECAST

The October 1981

Massachusetts Revenue Analysis and Forecasting Model Tax Forecast

by

George Treyz & Roy Williams

	Fiscal 1982	Fiscal 1983
	(Millions of Dollars)	
Alcoholic Beverages	85	89
Commercial Banks	36	35
Savings Banks	35	36
Cigarettes	148	147
Corporations	439	445
Deeds	14	16
Estate and Inheritance	93	94
Income	2250	2483
Insurance	109	111
Motor Fuel	274	265
Public Utilities	16	17
Racing and Boxing	35	39
Room Occupancy	23	26
Sales and Use	917	1009
Regular	599	648
Meals	169	186
Motor Vehicle	148	175
Misc. Dept. of Revenue	0	1
Beano, Raffles & Bazaars	6	7
Total (of amounts before rounding)	4481	4820

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OCTOBER CONTROL FORECAST (T5)

MASSACHUSETTS TAX REVENUES
(Millions of Dollars)

	Fiscal 1980	Fiscal 1981	Fiscal 1982	Fiscal 1983
Alcoholic Beverages	81	85	85	89
Commercial Banks	37	38	36	35
Savings Banks	33	38	35	36
Cigarettes	144	148	148	147
Corporations	439	442	439	445
Deeds	12	13	14	16
Estate and Inheritance	79	82	93	94
Income	1860	2058	2250	2483
Insurance	112	114	109	111
Motor Fuel	212	238	274	265
Public Utilities	23	18	16	17
Room Occupancy	18	22	23	26
Sales and Use	745	860	917	1009
Regular	506	572	599	648
Meals	138	155	169	186
Motor Vehicle	102	132	148	175
Misc. Dept. of Revenue*	1	0	0	1
Dept. of Revenue Total	3796	4156	4439	4773
Racing and Boxing	29	32	35	39
Beano, Raffles & Bazaars**	5	6	6	7
Comptrollers' Rept. Total	3830	4194	4481	4820

*Includes Beano, Raffles & Bazaars before January, 1978
**As reported by Comptroller less amount reported by D. of R.

81/10/14

OCTOBER CONTROL FORECAST (T5)

MASSACHUSETTS TAX REVENUES
(Per Cent Changes at Annual Rates)

	Fiscal 1980	Fiscal 1981	Fiscal 1982	Fiscal 1983
Alcoholic Beverages	.90	5.19	.69	4.47
Commercial Banks	63.60	2.33	-5.63	-3.79
Savings Banks	1.52	13.78	-6.30	2.87
Cigarettes	1.23	2.85	.01	-1.01
Corporations	9.53	.79	-.79	1.34
Deeds	-1.36	5.88	7.25	13.30
Estate and Inheritance	4.85	4.01	13.00	1.60
Income	14.01	10.63	9.36	10.32
Insurance	5.81	2.25	-4.72	2.05
Motor Fuel	-5.24	12.02	15.27	-3.16
Public Utilities	-17.21	-23.52	-10.71	8.84
Room Occupancy	14.86	23.87	4.59	13.72
Sales and Use	3.86	15.38	6.58	10.10
Regular	10.33	13.10	4.71	8.14
Meals	-1.57	13.01	8.75	10.23
Motor Vehicle	-14.69	29.97	12.16	17.89
Misc. Dept. of Revenue*	34.25	-46.57	-6.81	30.10
Dept. of Revenue Total	8.82	9.48	6.82	7.53
Racing and Boxing	3.16	9.77	8.40	11.95
Beano, Raffles & Bazaars**	13.74	18.83	8.16	12.21
Comptrollers' Rept. Total	8.78	9.49	6.84	7.57

*Includes Beano, Raffles & Bazaars before January, 1978
**As reported by Comptroller less amount reported by D. of R.

81/10/14

OCTOBER CONTROL FORECAST (T5)

ANALYSIS OF MASSACHUSETTS TAX COLLECTIONS
(Tax amounts in Millions of Dollars)

	Fiscal 1979	Fiscal 1980	Fiscal 1981	Fiscal 1982	Fiscal 1983
ALCOHOLIC BEVERAGES	79.8	80.6	84.7	85.3	89.1
Surprise Factor	.0	0.0	-.0	-.2	0.0
Processing Factor	0.0	0.0	0.0	0.0	0.0
Echo Factor	NM	NM	NM	NM	NM
Portion explained below (NS)	79.8	80.6	84.7	85.5	89.1
Portion explained below (SA)	79.9	80.6	84.7	85.5	89.2
Mult	.95	.96	1.01	1.01	1.01
Tax Rate (per 67$ of sales)	.24	.24	.24	.24	.24
Population over 18	4184	4227	4247	4268	4290
Real disp. income per adult(1.2*)	6.435	6.300	6.203	6.185	6.368
Tax effect ratio (-1.3*)	.87	.88	.89	.90	.90
*Elasticity (power diff. from 1 to which variable is raised.)					
Same variable without exponent:					
Real disp. income per adult	4.831	4.745	4.683	4.672	4.788
Tax effect ratio	1.11	1.10	1.09	1.09	1.08
COMMERCIAL BANKS	22.8	37.4	38.2	36.1	34.7
Surprise Factor	.0	.0	.0	1.7	0.0
Processing Factor	0.0	0.0	7.0	0.0	0.0
Echo Factor	NM	NM	NM	NM	NM
Portion explained below (NS)	22.8	37.4	31.2	34.4	34.7
Portion explained below (SA)	22.5	37.0	31.1	34.2	34.6
Mult	.80	1.08	.82	.96	1.00
Tax Rate	.1254	.1254	.1254	.1254	.1254
Commercial bank profits (mil$)	1468	1787	1982	1872	1808
SAVINGS BANKS	32.6	33.1	37.6	35.3	36.3
Surprise Factor	.0	.0	.0	.3	0.0
Processing Factor	0.0	0.0	0.0	0.0	0.0
Echo Factor	NM	NM	NM	NM	NM
Portion explained below (NS)	32.6	33.1	37.6	35.0	36.3
Portion explained below (SA)	32.1	32.8	37.7	35.2	36.0
Mult	1.128	1.011	1.087	1.087	1.087
Tax Rate (Fixed wt. index*)	1.00	1.00	1.00	1.00	1.00
Sav. bank deposits index (.37*)	.981	1.019	1.047	1.087	1.121
Comm. bank profits index (.63*)	1.11	1.33	1.44	1.28	1.31

*Weights used for rate and base composite indexes.

81/10/14

OCTOBER CONTROL FORECAST (T5)

ANALYSIS OF MASSACHUSETTS TAX COLLECTIONS
(Per Cent Changes at Annual Rates)

	Fiscal 1980	Fiscal 1981	Fiscal 1982	Fiscal 1983
ALCOHOLIC BEVERAGES	.90	5.19	.69	4.47
Surprise Factor	0.00	-.00	-.19	0.00
Processing Factor	0.00	0.00	0.00	0.00
Echo Factor	-.00	0.00	.00	.20
Portion explained below (NS)	.90	5.19	.88	4.28
Portion explained below (SA)	.86	5.18	.92	4.27
Mult	.94	5.23	0.00	0.00
Tax Rate (per 67$ of sales)	0.00	0.00	0.00	0.00
Population over 18	1.02	.47	.51	.50
Real disp. income per adult(1.2*)	-2.09	-1.55	-.29	2.95
Tax effect ratio (-1.3*)	1.03	1.05	.69	.77
*Elasticity (power diff. from 1 to which variable is raised.)				
Same variable without exponent:				
Real disp. income per adult	-1.77	-1.31	-.25	2.50
Tax effect ratio	-.78	-.79	-.53	-.58
COMMERCIAL BANKS	63.60	2.33	-5.63	-3.79
Surprise Factor	0.00	0.00	5.48	0.00
Processing Factor	0.00	18.73	0.00	0.00
Echo Factor	-.00	0.00	-21.15	-4.79
Portion explained below (NS)	63.60	-16.41	10.04	1.00
Portion explained below (SA)	64.76	-15.89	9.68	1.24
Mult	35.34	-24.16	16.30	4.67
Tax Rate	0.00	0.00	0.00	0.00
Commercial bank profits (mil$)	21.74	10.90	-5.52	-3.46
SAVINGS BANKS	1.52	13.78	-6.30	2.87
Surprise Factor	.00	0.00	.72	0.00
Processing Factor	0.00	0.00	0.00	0.00
Echo Factor	-.00	-.00	0.00	-.79
Portion explained below (NS)	1.52	13.78	-7.02	3.66
Portion explained below (SA)	2.26	14.84	-6.61	2.43
Mult	-10.38	7.49	0.00	0.00
Tax Rate (Fixed wt. index*)	0.00	0.00	0.00	0.00
Sav. bank deposits index (.37*)	3.88	2.69	3.86	3.15
Comm. bank profits index (.63*)	19.41	8.70	-11.07	2.08

*Weights used for rate and base composite indexes.

81/10/14

OCTOBER CONTROL FORECAST (T5)

ANALYSIS OF MASSACHUSETTS TAX COLLECTIONS
(Tax amounts in Millions of Dollars)

	Fiscal 1980	Fiscal 1981	Fiscal 1982	Fiscal 1983
CIGARETTES	144.0	148.1	148.1	146.6
Surprise Factor	.0	.0	2.0	0.0
Processing Factor	0.0	3.0	0.0	0.0
Echo Factor	NM	NM	NM	NM
Portion explained below (NS)	144.0	145.1	146.1	146.6
Portion explained below (SA)	143.9	145.1	146.1	146.6
Mult	1.03	1.02	1.02	1.02
Tax Rate	.21	.21	.21	.21
Population over 18	4227	4247	4268	4290
Per capita Use (Time trend)	.672	.664	.656	.648
Tax effect ratio (-.75*)	.82	.83	.85	.85
*Elasticity (power diff. from 1 to which variable is raised.) Same variable without exponent: Tax effect ratio	1.31	1.28	1.25	1.23
CORPORATIONS	438.9	442.3	438.8	444.7
Surprise Factor	.0	.0	2.7	0.0
Processing Factor	0.0	-15.0	0.0	0.0
Echo Factor	NM	NM	NM	NM
Portion explained below (NS)	438.9	457.3	436.1	444.7
Portion explained below (SA)	438.7	457.4	436.2	444.1
Mult	.91	.95	.95	.95
Corporate profits (1.01*)	6158	6202	5868	6012
Tax rate	.095	.095	.095	.095
Manufact. Capital stock (.08*)	18425	21653	25478	29655
Tax rate	.0026	.0026	.0026	.0026
Mnfact. equip. investment (-.09*)	2072	2384	2546	3029
Credit rate	.03	.03	.03	.03
*Probable approx. contribution to total collections in a typical year.				
DEEDS	12.2	13.0	13.9	15.8
Surprise Factor	-.0	.0	-.3	0.0
Processing Factor	0.0	0.0	0.0	0.0
Echo Factor	NM	NM	NM	NM
Portion explained below (NS)	12.2	13.0	14.2	15.8
Portion explained below (SA)	12.3	13.0	14.3	15.8
Mult	.89	.84	.84	.84
Tax Rate (per $500)	1.14	1.14	1.14	1.14
Disposable income	45457	50466	55284	61266

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OCTOBER CONTROL FORECAST (T5)

ANALYSIS OF MASSACHUSETTS TAX COLLECTIONS
(Per Cent Changes at Annual Rates)

	Fiscal 1980	Fiscal 1981	Fiscal 1982	Fiscal 1983
CIGARETTES	1.23	2.85	.01	-1.01
Surprise Factor	0.00	0.00	1.39	0.00
Processing Factor	0.00	2.08	0.00	0.00
Echo Factor	-.00	0.00	-2.07	-1.37
Portion explained below (NS)	1.23	.76	.68	.36
Portion explained below (SA)	1.24	.79	.70	.37
Mult	-.72	-.39	0.00	0.00
Tax Rate	0.00	0.00	0.00	0.00
Population over 18	1.02	.47	.51	.50
Per capita Use (Time trend)	-1.19	-1.19	-1.19	-1.19
Tax effect ratio (-.75*)	2.17	1.93	1.40	1.07
*Elasticity (power diff. from 1 to which variable is raised.)				
Same variable without exponent:				
Tax effect ratio	-2.83	-2.53	-1.84	-1.42
CORPORATIONS	9.53	.79	-.79	1.34
Surprise Factor	0.00	0.00	.59	0.00
Processing Factor	0.00	-3.42	0.00	0.00
Echo Factor	0.00	0.00	3.25	-.62
Portion explained below (NS)	9.53	4.20	-4.63	1.96
Portion explained below (SA)	9.67	4.27	-4.64	1.83
Mult	-3.65	3.68	0.00	0.00
Corporate profits (1.01*)	15.16	.72	-5.38	2.45
Tax rate	0.00	0.00	0.00	0.00
Manufact. Capital stock (.08*)	15.78	17.52	17.66	16.40
Tax rate	0.00	0.00	0.00	0.00
Mnfact. equip. investment (-.09*)	29.78	15.04	6.81	18.99
Credit rate	0.00	0.00	0.00	0.00
*Probable approx. contribution to total collections in a typical year.				
DEEDS	-1.36	5.88	7.25	13.30
Surprise Factor	-.00	0.00	-2.36	0.00
Processing Factor	0.00	0.00	0.00	0.00
Echo Factor	-.00	0.00	-.00	2.44
Portion explained below (NS)	-1.36	5.88	9.62	10.86
Portion explained below (SA)	-1.20	5.72	9.55	10.82
Mult	-11.39	-4.77	0.00	0.00
Tax Rate (per $500)	0.00	0.00	0.00	0.00
Disposable income	11.50	11.02	9.55	10.82

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OCTOBER CONTROL FORECAST (T5)

ANALYSIS OF MASSACHUSETTS TAX COLLECTIONS
(Tax amounts in Millions of Dollars)

	Fiscal 1979	Fiscal 1980	Fiscal 1981	Fiscal 1982	Fiscal 1983
ESTATE AND INHERITANCE	75.3	79.0	82.1	92.8	94.3
Surprise Factor	-.0	.0	.0	3.9	0.0
Processing Factor	0.0	3.0	0.0	0.0	0.0
Echo Factor	NM	NM	NM	NM	NM
Portion explained below (NS)	75.3	76.0	82.1	88.9	94.3
Portion explained below (SA)	75.4	76.1	82.2	88.9	94.4
Mult	1.03	.99	.99	.99	.99
Household net worth	104410	110099	119016	128715	136651
INCOME	1631.4	1860.0	2057.7	2250.3	2482.6
Surprise Factor (not used)	.0	0.0	-.0	15.1	0.0
Processing Factor	0.0	0.0	0.0	-27.0	-57.0
Echo Factor	NM	NM	NM	NM	NM
Portion explained (see (NS)	1631.4	1860.0	2057.7	2277.3	2539.6
separate detail) (SA)	1631.4	1860.0	2057.7	2277.3	2539.6
Mult	1.08	1.09	1.08	1.08	1.08
Earned Income	34431	38187	41793	45496	50241
Tax Rate	.0538	.0538	.0538	.0538	.0538
Unearned Income	1707	1930	2139	2338	2448
Tax Rate	.1075	.1075	.1075	.1075	.1075
Total Deductions & Exemptions	9544	10185	10575	10894	11346
INSURANCE	105.4	111.5	114.0	108.6	110.9
Surprise Factor	.0	.0	.0	.8	0.0
Processing Factor	0.0	0.0	0.0	0.0	0.0
Echo Factor	NM	NM	NM	NM	NM
Portion explained below (NS)	105.4	111.5	114.0	107.9	110.9
Portion explained below (SA)	105.0	111.2	114.1	107.9	110.6
Mult	.89	.82	.83	.83	.83
Corporate profits	5347	6158	6202	5868	6012

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OCTOBER CONTROL FORECAST (T5)

ANALYSIS OF MASSACHUSETTS TAX COLLECTIONS
(Per Cent Changes at Annual Rates)

	Fiscal 1980	Fiscal 1981	Fiscal 1982	Fiscal 1983
ESTATE AND INHERITANCE	4.85	4.01	13.00	1.60
Surprise Factor	.00	0.00	4.80	0.00
Processing Factor	3.98	0.00	0.00	0.00
Echo Factor	0.00	-4.11	-.00	-4.51
Portion explained below (NS)	.86	8.12	8.20	6.10
Portion explained below (SA)	.94	8.06	8.15	6.17
Mult	-4.28	-.04	0.00	0.00
Household net worth	5.45	8.10	8.15	6.17
INCOME	14.01	10.63	9.36	10.32
Surprise Factor (not used)	0.00	-.00	.74	0.00
Processing Factor	0.00	0.00	-1.31	-2.50
Echo Factor	0.00	0.00	0.00	1.31
Portion explained (see (NS)	14.01	10.63	10.67	11.52
separate detail) (SA)	14.01	10.63	10.67	11.52
Mult	1.26	-.72	0.00	0.00
Earned Income	10.91	9.44	8.86	10.43
Tax Rate	0.00	0.00	0.00	0.00
Unearned Income	13.05	10.81	9.31	4.74
Tax Rate	0.00	0.00	0.00	0.00
Total Deductions & Exemptions	6.72	3.83	3.02	4.15
INSURANCE	5.81	2.25	-4.72	2.05
Surprise Factor	0.00	0.00	.69	0.00
Processing Factor	0.00	0.00	0.00	0.00
Echo Factor	-.00	-.00	0.00	-.75
Portion explained below (NS)	5.81	2.25	-5.41	2.80
Portion explained below (SA)	5.95	2.54	-5.38	2.45
Mult	-8.00	1.81	0.00	0.00
Corporate profits	15.16	.72	-5.38	2.45

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OCTOBER CONTROL FORECAST (T5)

ANALYSIS OF MASSACHUSETTS TAX COLLECTIONS
(Tax amounts in Millions of Dollars)

	Fiscal 1979	Fiscal 1980	Fiscal 1981	Fiscal 1982	Fiscal 1983
MOTOR FUELS	223.8	212.0	237.5	273.8	265.2
Surprise Factor	.0	.0	.0	9.1	0.0
Processing Factor	0.0	0.0	0.0	0.0	0.0
Echo Factor	NM	NM	NM	NM	NM
Portion explained below (NS)	223.8	212.0	237.5	264.8	265.2
Portion explained below (SA)	224.6	212.2	235.3	265.4	265.0
Mult	1.00	1.02	1.04	1.04	1.04
Tax Rate	.085	.085	.099	.113	.118
Consumption, 72 $, gas & oil	783.4	728.1	678.0	669.9	641.1
Tax effect ratio (-.23*)	1.000	1.001	1.001	1.000	1.001
*Elasticity (power diff. from 1 to which variable is raised.)					
Same variable without exponent:					
Tax effect ratio	.999	.996	.998	1.001	.996
PUBLIC UTILITIES	27.9	23.1	17.6	15.8	17.1
Surprise Factor	.0	.0	.0	-1.0	0.0
Processing Factor	0.0	0.0	0.0	0.0	0.0
Echo Factor	NM	NM	NM	NM	NM
Portion explained below (NS)	27.9	23.1	17.6	16.7	17.1
Portion explained below (SA)	27.6	23.0	17.6	16.7	17.1
Mult	.94	.68	.52	.52	.52
Corporate profits	5347	6158	6202	5868	6012
ROOM OCCUPANCY	15.5	17.8	22.1	23.1	26.3
Surprise Factor	.0	.0	.0	-.0	0.0
Processing Factor	0.0	0.0	1.0	0.0	0.0
Echo Factor	NM	NM	NM	NM	NM
Portion explained below (NS)	15.5	17.8	21.1	23.1	26.3
Portion explained below (SA)	15.6	17.9	21.2	23.2	26.4
Mult	1.07	1.12	1.22	1.22	1.22
Tax Rate	.057	.057	.057	.057	.057
Real p. c. disp. income (.74*)	2.518	2.490	2.470	2.475	2.520
Disposable income	41330	46094	51122	56259	62375
Employment effect (2.1*)	.88	.88	.87	.86	.87
*Elasticity (power diff. from 1 to which variable is raised.)					
Same variable without exponent:					
Real per cap. dispos. income	3.477	3.426	3.388	3.396	3.481
Employment effect	.94	.94	.93	.93	.93

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OCTOBER CONTROL FORECAST (T5)

ANALYSIS OF MASSACHUSETTS TAX COLLECTIONS
(Per Cent Changes at Annual Rates)

	Fiscal 1980	Fiscal 1981	Fiscal 1982	Fiscal 1983
MOTOR FUELS	-5.24	12.02	15.27	-3.16
Surprise Factor	.00	0.00	3.81	0.00
Processing Factor	0.00	0.00	0.00	0.00
Echo Factor	0.00	-.00	-.00	-3.31
Portion explained below (NS)	-5.24	12.02	11.46	.16
Portion explained below (SA)	-5.51	10.89	12.80	-.17
Mult	1.61	2.22	0.00	0.00
Tax Rate	0.00	16.67	14.12	4.20
Consumption, 72 $, gas & oil	-7.06	-6.88	-1.20	-4.30
Tax effect ratio (-.23*)	.06	-.03	-.08	.13
*Elasticity (power diff. from 1 to which variable is raised.)				
Same variable without exponent:				
Tax effect ratio	-.26	.14	.35	-.55
PUBLIC UTILITIES	-17.21	-23.52	-10.71	8.84
Surprise Factor	0.00	0.00	-5.51	0.00
Processing Factor	0.00	0.00	0.00	0.00
Echo Factor	0.00	0.00	0.00	6.33
Portion explained below (NS)	-17.21	-23.52	-5.19	2.52
Portion explained below (SA)	-16.49	-23.38	-5.38	2.45
Mult	-27.49	-23.92	0.00	0.00
Corporate profits	15.16	.72	-5.38	2.45
ROOM OCCUPANCY	14.86	23.87	4.59	13.72
Surprise Factor	0.00	0.00	-.03	0.00
Processing Factor	0.00	5.61	0.00	0.00
Echo Factor	-.00	-.00	-4.96	.03
Portion explained below (NS)	14.86	18.26	9.58	13.69
Portion explained below (SA)	14.52	18.31	9.60	13.70
Mult	3.95	9.26	0.00	0.00
Tax Rate	0.00	0.00	0.00	0.00
Real p. c. disp. income (.74*)	-1.10	-.81	.18	1.83
Disposable income	11.53	10.91	10.05	10.87
Employment effect (2.1*)	-.07	-1.59	-.60	.70
*Elasticity (power diff. from 1 to which variable is raised.)				
Same variable without exponent:				
Real per cap. dispos. income	-1.48	-1.10	.25	2.48
Employment effect	-.04	-.76	-.29	.34

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OCTOBER CONTROL FORECAST (T5)

ANALYSIS OF MASSACHUSETTS TAX COLLECTIONS
(Tax amounts in Millions of Dollars)

	Fiscal 1979	Fiscal 1980	Fiscal 1981	Fiscal 1982	Fiscal 1983
SALES--REGULAR	458.8	506.2	572.5	599.4	648.2
Surprise Factor	.0	.0	.0	7.2	0.0
Processing Factor	0.0	0.0	21.0	4.0	0.0
Echo Factor	NM	NM	NM	NM	NM
Portion explained below (NS)	458.8	506.2	551.5	588.1	648.2
Portion explained below (SA)	458.9	506.1	551.4	588.1	648.2
Mult	1.08	1.10	1.09	1.09	1.09
Tax Rate	.050	.050	.050	.050	.050
Consumption expend. net of m.v.	2932	3130	3403	3647	4017
Rel. employment effect (1.03*)	1.00	1.01	1.02	1.01	1.01
Tax effect ratio (-5.5*)	.76	.76	.76	.76	.76
*Elasticity (power diff. from 1 to which variable is raised.)					
Same variable without exponent:					
Relative employment effect	1.00	1.01	1.02	1.01	1.01
Tax effect ratio	1.05	1.05	1.05	1.05	1.05
SALES--MEALS	139.8	137.6	155.5	169.1	186.4
Surprise Factor	-.0	0.0	.0	.9	0.0
Processing Factor	0.0	0.0	2.0	0.0	0.0
Echo Factor	NM	NM	NM	NM	NM
Portion explained below (NS)	139.8	137.6	153.5	168.2	186.4
Portion explained below (SA)	139.4	137.8	153.7	168.4	186.6
Mult	1.01	.98	.99	.99	.99
Tax Rate	.056	.050	.050	.050	.050
Disposable income	40769	45457	50466	55284	61266
Tax effect ratio (-1.25*)	.88	.90	.90	.90	.90
Tax effect ratio	1.06	1.05	1.05	1.05	1.05
SALES--MOTOR VEHICLES	119.2	101.7	132.1	148.2	174.7
Surprise Factor	.0	.0	.0	-2.7	0.0
Processing Factor	0.0	0.0	3.0	0.0	0.0
Echo Factor	NM	NM	NM	NM	NM
Portion explained below (NS)	119.2	101.7	129.1	150.9	174.7
Portion explained below (SA)	119.7	103.0	129.9	150.5	175.0
Mult	1.02	.92	1.12	1.11	1.08
Tax Rate	.050	.050	.050	.050	.050
Consumption expend., motor veh.	2534	2417	2502	2931	3526
Tax effect ratio (-8.0*)	.68	.68	.68	.68	.68
Tax effect ratio	1.05	1.05	1.05	1.05	1.05

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OCTOBER CONTROL FORECAST (T5)

ANALYSIS OF MASSACHUSETTS TAX COLLECTIONS
(Per Cent Changes at Annual Rates)

	Fiscal 1980	Fiscal 1981	Fiscal 1982	Fiscal 1983
SALES--REGULAR	10.33	13.10	4.71	8.14
Surprise Factor	0.00	0.00	1.31	0.00
Processing Factor	0.00	4.15	.73	0.00
Echo Factor	-.00	0.00	-3.99	-2.07
Portion explained below (NS)	10.33	8.95	6.65	10.20
Portion explained below (SA)	10.29	8.95	6.67	10.21
Mult	2.28	-.70	0.00	0.00
Tax Rate	0.00	0.00	0.00	0.00
Consumption expend. net of m.v.	6.74	8.72	7.18	10.16
Rel. employment effect (1.03*)	1.04	.92	-.50	.06
Tax effect ratio (-5.5*)	0.00	0.00	0.00	0.00
*Elasticity (power diff. from 1 to which variable is raised.)				
Same variable without exponent:				
Relative employment effect	1.00	.89	-.48	.06
Tax effect ratio	0.00	0.00	0.00	0.00
SALES--MEALS	-1.57	13.01	8.75	10.23
Surprise Factor	0.00	0.00	.60	0.00
Processing Factor	0.00	1.45	0.00	0.00
Echo Factor	.00	0.00	-1.42	-.60
Portion explained below (NS)	-1.57	11.56	9.57	10.83
Portion explained below (SA)	-1.13	11.51	9.55	10.82
Mult	-2.47	.44	0.00	0.00
Tax Rate	-10.43	0.00	0.00	0.00
Disposable income	11.50	11.02	9.55	10.82
Tax effect ratio (-1.25*)	1.25	0.00	0.00	0.00
Tax effect ratio	-.55	0.00	0.00	0.00
SALES--MOTOR VEHICLES	-14.69	29.97	12.16	17.89
Surprise Factor	0.00	0.00	-2.12	0.00
Processing Factor	0.00	2.95	0.00	0.00
Echo Factor	0.00	-.00	-2.61	2.14
Portion explained below (NS)	-14.69	27.02	16.89	15.75
Portion explained below (SA)	-14.00	26.13	15.87	16.29
Mult	-9.83	21.83	-1.05	-3.31
Tax Rate	0.00	0.00	0.00	0.00
Consumption expend., motor veh.	-4.62	3.53	17.15	20.29
Tax effect ratio (-8.0*)	0.00	0.00	0.00	0.00
Tax effect ratio	0.00	0.00	0.00	0.00

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OCTOBER CONTROL FORECAST (T5)

ANALYSIS OF MASSACHUSETTS INCOME TAX COLLECTIONS
(Amounts in Millions of Dollars)

	Fiscal 1979	Fiscal 1980	Fiscal 1981	Fiscal 1982	Fiscal 1983
TOTAL INCOME TAX	1631.4	1860.0	2057.7	2250.3	2482.6
Portion explained below (SA)	1631.4	1860.0	2057.7	2277.3	2539.6
Mult	1.08	1.09	1.08	1.08	1.08
Earned Income Base	34431	38187	41793	45496	50241
Earned Income Tax Rate	.0538	.0538	.0538	.0538	.0538
Sources of Earned Income:					
Wages & Salaries	31522	34898	38133	41461	45832
Per Cent Taxed	97.0	97.0	97.0	97.0	97.0
Proprietors' Income	2229	2427	2558	2646	2943
Per Cent Taxed	67.0	67.0	67.0	67.0	67.0
Pensions & Annuities	736	795	863	935	1024
Per Cent Taxed	51.0	51.0	51.0	51.0	51.0
Interest (at earned rate)	2420	2849	3334	3860	4297
Per Cent Taxed	45.0	45.0	45.0	45.0	45.0
Other	1836	2054	2290	2538	2779
Per Cent Taxed	52.5	52.5	52.5	52.5	52.5
Unearned Income Base	1707	1930	2139	2338	2448
Unearned Income Tax Rate	.1075	.1075	.1075	.1075	.1075
Sources of Unearned Income:					
Dividends	1465	1637	1916	2218	2469
Per Cent Taxed	60.4	60.4	60.4	60.4	60.4
Capital Gains	571	639	598	519	385
Statutory Per Cent Taxed	100.0	90.0	70.0	50.0	40.0
Per Cent of Stat. C.G. Taxed	80.0	80.0	80.0	80.0	80.0
Interest (at unearned rate)	605	712	833	965	1074
Per Cent Taxed	60.4	60.4	60.4	60.4	60.4
Total Deductions & Exemptions	9544	10185	10575	10894	11346
Basic Exemption (Wage earners)	5190	5326	5370	5413	5558
Basic Exemption (Self-employed)	324	328	328	333	345
Blindness	6	6	6	6	6
Day Care	433	437	438	440	442
Dependents	1102	1155	1132	1115	1108
Elderly	246	270	273	275	277
Separate Filing	-12	-12	-12	-12	-12
Non-working Spouses	347	396	418	415	406
Retirement Contributions	1634	1854	2126	2370	2626
Other deductions	157	175	195	214	235
Other Exemptions	256	286	319	349	383

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OCTOBER CONTROL FORECAST (T5)

ANALYSIS OF MASSACHUSETTS INCOME TAX COLLECTIONS
(Per Cent Changes at Annual Rates)

	Fiscal 1980	Fiscal 1981	Fiscal 1982	Fiscal 1983
TOTAL INCOME TAX	14.01	10.63	9.36	10.32
Portion explained below (SA)	14.01	10.63	10.67	11.52
Mult	1.26	-.72	0.00	0.00
Earned Income Base	10.91	9.44	8.86	10.43
Earned Income Tax Rate	0.00	0.00	0.00	0.00
Sources of Earned Income:				
Wages & Salaries	10.71	9.27	8.73	10.54
Per Cent Taxed	0.00	0.00	0.00	0.00
Proprietors' Income	8.87	5.39	3.46	11.23
Per Cent Taxed	0.00	0.00	0.00	0.00
Pensions & Annuities	8.10	8.52	8.40	9.47
Per Cent Taxed	0.00	0.00	0.00	0.00
Interest (at earned rate)	17.74	17.01	15.78	11.33
Per Cent Taxed	0.00	0.00	0.00	0.00
Other	11.90	11.48	10.86	9.46
Per Cent Taxed	0.00	0.00	0.00	0.00
Unearned Income Base	13.05	10.81	9.31	4.74
Unearned Income Tax Rate	0.00	0.00	0.00	0.00
Sources of Unearned Income:				
Dividends	11.77	17.01	15.78	11.33
Per Cent Taxed	0.00	0.00	0.00	0.00
Capital Gains	11.77	-6.40	-13.17	-25.78
Statutory Per Cent Taxed	-10.00	-22.22	-28.57	-20.00
Per Cent of Stat. C.G. Taxed	0.00	0.00	0.00	0.00
Interest (at unearned rate)	17.74	17.01	15.78	11.33
Per Cent Taxed	0.00	0.00	0.00	0.00
Total Deductions & Exemptions	6.72	3.83	3.02	4.15
Basic Exemption (Wage earners)	2.61	.82	.80	2.69
Basic Exemption (Self-employed)	1.01	-.02	1.60	3.62
Blindness	4.71	-.17	.05	.16
Day Care	.98	.27	.27	.59
Dependents	4.78	-2.05	-1.45	-.68
Elderly	9.83	.97	.79	.87
Separate Filing	NM	NM	NM	NM
Non-working Spouses	14.01	5.75	-.77	-2.15
Retirement Contributions	13.47	14.68	11.48	10.79
Other deductions	12.01	11.29	9.65	9.72
Other Exemptions	12.01	11.29	9.65	9.72

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OCTOBER PESSIMISTIC FORECAST BASED ON DRI'S "RECESSION092481"

MASSACHUSETTS TAX REVENUES
(Millions of Dollars)

	Fiscal 1981	Fiscal 1982	Fiscal 1983
Alcoholic Beverages	85	85	89
Commercial Banks	38	36	35
Savings Banks	38	35	37
Cigarettes	148	148	146
Corporations	442	436	420
Deeds	13	14	16
Estate and Inheritance	82	93	96
Income	2058	2221	2441
Insurance	114	108	104
Motor Fuel	238	273	260
Public Utilities	18	16	16
Room Occupancy	22	23	26
Sales and Use	860	872	963
Regular	572	569	627
Meals	155	168	184
Motor Vehicle	132	135	151
Misc. Dept. of Revenue*	0	0	1
Dept. of Revenue Total	4156	4359	4650
Racing and Boxing	32	35	39
Beano, Raffles & Bazaars**	6	6	7
Comptrollers' Rept. Total	4194	4400	4696

*Includes Beano, Raffles & Bazaars before January, 1978
**As reported by Comptroller less amount reported by D. of R.

81/10/14.

THE EFFECT OF PESSIMISTIC NATIONAL INPUTS FROM DRI
(FORECAST BASED ON RECESSION092481 MINUS ONE BASED ON CONTROL092381)

MASSACHUSETTS TAX REVENUES
(Millions of Dollars)

	Fiscal 1982	Fiscal 1983
Alcoholic Beverages	-.447	-.016
Commercial Banks	.008	.026
Savings Banks	.059	.656
Cigarettes	-.086	-.283
Corporations	-2.709	-24.951
Deeds	-.091	-.184
Estate and Inheritance	-.021	1.542
Income	-28.892	-41.325
Insurance	-1.084	-6.470
Motor Fuel	-.951	-5.035
Public Utilities	-.170	-.988
Room Occupancy	-.483	-.542
Sales and Use	-45.035	-46.144
Regular	-30.585	-20.702
Meals	-1.192	-2.115
Motor Vehicle	-13.258	-23.328
Misc. Dept. of Revenue	-.004	-.006
Dept. of Revenue Total	-79.908	-123.718
Racing and Boxing	-.275	-.429
Beano, Raffles & Bazaars	-.050	-.081
Comptrollers' Rept. Total	-80.233	-124.228

81/10/14

OCTOBER CONTROL FORECAST (T5)

SUMMARY REPORT
MASSACHUSETTS ECONOMIC POLICY ANALYSIS MODEL
(Seasonally Adjusted Annual Rates)

	Fiscal 1980	Fiscal 1981	Fiscal 1982	Fiscal 1983
Employment--Nonag. W. & S.	2636	2659	2678	2750
% Change	2.6	.9	.7	2.7
Manufacturing	678	668	673	697
% Change	2.0	-1.5	.8	3.7
Non-Manufacturing	1958	1991	2005	2053
% Change	2.8	1.7	.7	2.4
Unemployment Rate	5.4	5.7	6.2	5.9
Employment Rate Index*	105.6	105.5	105.5	108.1
% Change	1.6	-.1	.0	2.4
Relative to U.S. Index*	99.7	100.4	99.8	101.0
Rate of Wage Change	8.0	9.2	8.3	7.3
Wage Index Rel. to U.S.*	94.1	93.9	94.2	94.5
Avg. Weekly Hours in Mfg.	40.1	40.0	40.3	40.5
Rate of Price Inflation	12.4	12.0	9.2	7.6
Relative to U.S. CPI*	96.3	96.6	96.7	96.6
Personal Income (mil$)	54310	60442	66272	72711
% Change	12.0	11.3	9.6	9.7
Disposable Income (mil$)	45457	50466	55284	61266
% Change	11.5	11.0	9.5	10.8
Real Per Cap. D.I. Index*	106.7	106.0	106.2	109.3
Relative to U.S.*	103.8	104.7	104.6	105.4
Rel. Business Cost Index*	96.3	96.4	95.7	95.8
Manufacturing*	96.1	95.5	94.7	94.8
Non-Manufacturing*	96.4	96.7	96.2	96.3

*Indexes equal 100 in calendar 1973.

81/10/14

OCTOBER PESSIMISTIC FORECAST BASED ON DRI'S "RECESSION092481"

SUMMARY REPORT
MASSACHUSETTS ECONOMIC POLICY ANALYSIS MODEL
(Seasonally Adjusted Annual Rates)

	Fiscal 1981	Fiscal 1982	Fiscal 1983
Employment--Nonag. W. & S.	2659	2650	2726
% Change	.9	-.3	2.9
Manufacturing	668	661	686
% Change	-1.5	-1.0	3.7
Non-Manufacturing	1991	1989	2040
% Change	1.7	-.1	2.6
Unemployment Rate	5.7	6.9	6.0
Employment Rate Index*	105.5	104.4	107.1
% Change	-.1	-1.0	2.6
Relative to U.S. Index*	100.4	99.7	100.9
Rate of Wage Change	9.2	8.1	7.2
Wage Index Rel. to U.S.*	93.9	94.2	94.5
Avg. Weekly Hours in Mfg.	40.0	40.2	40.5
Rate of Price Inflation	12.0	8.9	6.7
Relative to U.S. CPI*	96.6	96.6	96.6
Personal Income (mil$)	60442	65699	71812
% Change	11.3	8.7	9.3
Disposable Income (mil$)	50466	54872	60576
% Change	11.0	8.7	10.4
Real Per Cap. D.I. Index*	106.0	105.8	109.3
Relative to U.S.*	104.7	104.8	105.4
Rel. Business Cost Index*	96.4	95.7	95.8
Manufacturing*	95.5	94.7	94.8
Non-Manufacturing*	96.7	96.2	96.3

*Indexes equal 100 in calendar 1973.

81/10/14.

THE EFFECT OF PESSIMISTIC NATIONAL INPUTS FROM DRI
(FORECAST BASED ON RECESSION092481 MINUS ONE BASED ON CONTROL092381)

SUMMARY REPORT
MASSACHUSETTS ECONOMIC POLICY ANALYSIS MODEL

	Fiscal 1982	Fiscal 1983
Employment--Nonag. W. & S.*	-28.339	-24.286
Manufacturing*	-11.435	-11.381
Non-Manufacturing*	-16.903	-12.905
Unemployment Rate (in percentage points)	.708	.130
Wage Index **	-.211	-.316
Boston C.P.I. **	-.301	-1.170
Personal Income ***	-573.255	-899.805
Disposable Income ***	-412.387	-690.540
Real Per Cap. Disp. Inc. **	-.433	.066
Rel. Business Cost **	.007	.001
Manufacturing **	.008	.005
Non-Manufacturing **	.007	-.001

*Difference in thousands of people.
(i.e. the Alternative minus the Control)
**Difference in per cent.
(i.e. 100*((Alternative-Control)/Control)
***Difference in millions of dollars.
(i.e. Alternative - Control)

NOTES FOR MRAF October 1981

Tax forecast. For a full documentation please request the MRAF booklet.

The forecast with the Massachusetts Revenue Analysis and Forecasting (MRAF) model is made using a documented automatic procedure except for the explicit introduction of judgmental information. For this forecast the judgment adjustments for each tax affected are listed alphabetically along with an appraisal of the effect of the adjustment.

ALCOHOLIC BEVERAGES

No adjustments.

BANKS (COMMERCIAL)

Seven million dollars added as special collections in the third quarter of 1980 (80:3). This has the effect of reducing the mult. for FY81 by 18 percent. The mult. was increased, however, from .82 to 1.00 from the first forecast quarter (81:4) forward on the premise that audits would increase future receipts.

BANKS (SAVINGS)

No adjustments.

CIGARETTES

Three million dollars added for special processing in 1981:2; six million added in 1981:3 and six million removed in 1982:2. This reflects processing changes that had the effect of changing the past pattern of receipts of 1 2/3 months in June, 1/3 month in July to 2 months in June 1981, 1 month in July 1981 and 1 month in June 1982.

CORPORATIONS

Additive adjustments of -$10 and -5 million were made for 81:1 and 81:2 respectively to allow for the effect of changing the law so that corporations

can deduct refunds from current estimated payments rather than wait for a refund check from the state.

DEEDS

No adjustments.

ESTATE AND INHERITANCE

No adjustments.

INCOME

Added 25 million dollars to 1981:3 to reflect staffing problems in June 1981 that led to more spillover into July than usual.

Reduction of -$10, -$42 million for 82:1 and 82:2 (and -$11, -$46 for 83:1 and 83:2) were made to capture the effect of deductions of rental payments allowed under Proposition 2-1/2. The effect is to reduce predicted collections for fiscal 1982 and 1983 by -$52 and -$57 respectively.

INSURANCE

No adjustment.

MOTOR FUELS

Subtract 3 million dollars in special processing from 81:1 and added it in 81:2 because of a larger than usual spillover from the first to the second quarter.

PUBLIC UTILITIES

No adjustments.

ROOM OCCUPANCY

In 81:1, one million dollars of the reported collections assumed to be due to a speedup in collections.

SALES (REGULAR)

In 81:1, $17 million, and in 81:2, $4 million added for the collection speed up. Four million added to 81:3 for unusual spillover.

SALES (MEALS)

In 81:1 and 81:2, one million dollars is added for the collections speed

up. This increases the FY81 total by 2 million.

SALES (MOTOR VEHICLES)

Three million dollars added to special processing in 81:2 for collections speed up.

The mult was reduced by about two percent for calendar 1982 and by an additional five percent for 1983 to phase out the spurt in auto buying induced by the lower personal property taxes mandated by Proposition 2 1/2.

MASS. UM1.2:M38/982-1

The January 1982

Massachusetts Economic Policy Analysis (MEPA)

Model Forecast

by

George Treyz and Roy Williams*

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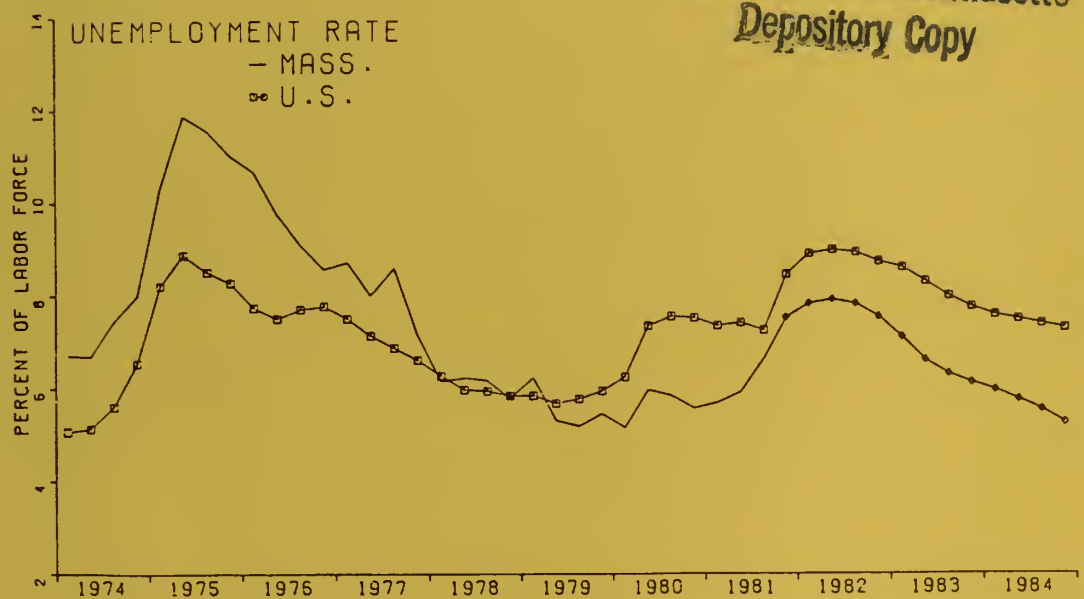

*Director and Associate Director, respectively, of the MEPA project, Economics Department, University of Massachusetts, Amherst, MA 01003. (Tel. 413-545-0915).
Technical support was given by staff of the Massachusetts Division of Employment Security. Support from the Legislative Science Resource Office, the Department of Public Welfare, the Division of Employment Security, and Massport. National inputs from CONTROL122181 from Data Resources, Inc.

The January 1982

Massachusetts Economic Policy Analysis (MEPA)

Model Forecast

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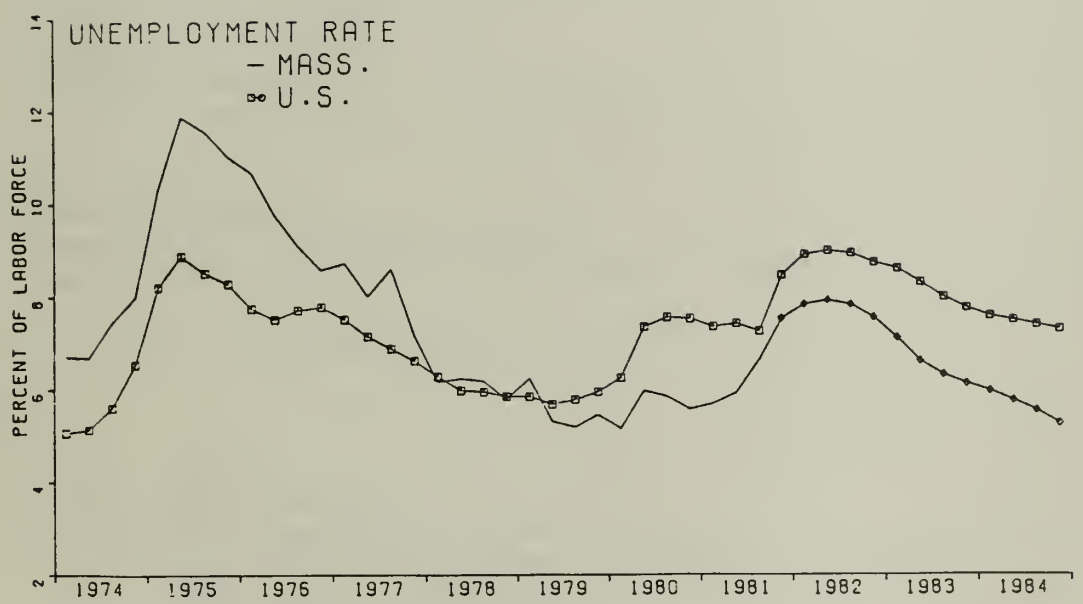

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THE JANUARY 1982

MASSACHUSETTS ECONOMIC POLICY ANALYSIS (MEPA)

AND

REVENUE ANALYSIS AND FORECASTING (MRAF)

MODEL FORECASTS

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The January 1982
Massachusetts Economic Policy Analysis (MEPA)
Model Forecast

by

George Treyz and Roy Williams*

The recession is now well under way with national unemployment near nine percent and likely to stay in that range at least through the middle of next year after which it is forecast to decline only very slowly. The Massachusetts unemployment rate has also increased, but it remains below the national rate in the most recent quarter (7.5 for Massachusetts vs. 8.4 for the U.S.). We predict that it will remain that way over the forecast horizon.

Our forecast thus remains fairly optimistic for Massachusetts relative to the nation. In light of the strong dollar and its likely negative effect on high technology exports this "relative optimism" requires some explanation. First, our competitive position relative to the rest of the nation is not deteriorating despite our stronger economy. This is apparent in our measure of relative Massachusetts business costs which is 4.5 percent lower than it was in 1973 and 1.6 percent below what it was in 1977. This is a very good omen for our likely future growth. Second, much of our industry is fairly concentrated in growing high technology and service sectors. This underlying growth should help to support the economy even during the recession.

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Third, increases in defense procurement should help the Massachusetts economy as 1982 progresses. These factors underlie our forecast in which the annual unemployment rate remains substantially lower in Massachusetts than in the nation. However the measured unemployment rate is subject to sampling error and thus the highly volatile spread between the measured Massachusetts and U.S. unemployment rates can be expected to fluctuate on a month to month basis.

The good news about 1982 is that inflation is forecast to decelerate. Consumer prices are forecast to grow slightly less than seven percent in 1982. In later years they are predicted to grow at about 8 percent. This modest price growth combined with personal tax cuts leads to some growth in real disposable per capita incomes in each of the forecast years. The lower inflation will, however, have some adverse effects on Massachusetts sales tax collections.

One of the surprising phenomena of recent years has been an apparent continued decline in the Massachusetts population even though the United States population has been growing. This decline in Massachusetts' share has continued in recent years but we predict that the rate of decline will be reduced as the relatively favorable economic climate in Massachusetts encourages people to stay in the state.

In contrast the 16 year and over population has been growing in Massachusetts in recent years. However demographic shifts lead us to predict that our sixteen and over population will grow a little more slowly in the forecast period in spite of the improvement in total population share. This growth in the adult population will tend to increase our labor force at about two percent per year over

the next three years. This will mean that the unemployment rate will grow unless employment grows at least that fast.

In summary, we expect soft economic conditions both in the nation and in Massachusetts through the first part or middle of 1982. We also expect that, despite uncertainties in export markets, Massachusetts will remain somewhat better off in terms of unemployment that the rest of the nation.

JANUARY CONTROL FORECAST (T5)

SUMMARY REPORT
MASSACHUSETTS ECONOMIC POLICY ANALYSIS MODEL
(Seasonally Adjusted Annual Rates)

	1980	1981	1982	1983	1984
Employment--Nonag. W. & S.	2648	2660	2665	2742	2822
% Change	1.7	.4	.2	2.9	2.9
Manufacturing	673	668	667	702	723
% Change	.2	-.7	-.2	5.2	3.1
Non-Manufacturing	1975	1991	1997	2040	2099
% Change	2.3	.8	.3	2.1	2.9
Unemployment Rate	5.6	6.4	7.8	6.5	5.6
Employment Rate Index*	105.5	105.0	104.6	106.9	109.4
% Change	.7	-.5	-.4	2.3	2.3
Relative to U.S. Index*	100.2	99.9	100.3	101.1	101.5
Rate of Wage Change	8.5	9.0	7.6	7.6	7.9
Wage Index Rel. to U.S.*	94.0	93.8	93.8	93.6	94.2
Avg. Weekly Hours in Mfg.	39.8	40.2	40.2	40.5	40.5
Rate of Price Inflation	12.7	11.2	6.7	8.0	8.0
Relative to U.S. CPI*	96.0	96.7	95.6	95.7	95.1
Personal Income (mil$)	57243	63088	68355	75867	83881
% Change	11.5	10.2	8.3	11.0	10.6
Disposable Income (mil$)	47906	52554	57343	64256	71120
% Change	11.4	9.7	9.1	12.1	10.7
Real Per Cap. D.I. Index*	106.3	105.0	107.2	110.5	112.7
Relative to U.S.*	104.7	104.1	105.3	105.4	105.2
Rel. Business Cost Index*	96.4	96.5	96.4	96.3	96.7
Manufacturing*	95.9	95.2	94.8	94.7	95.1
Non-Manufacturing*	96.6	97.1	97.1	97.0	97.4

*Indexes equal 100 in calendar 1973.

JANUARY CONTROL FORECAST (T5)

EMPLOYMENT IN MASSACHUSETTS--INDUSTRY DETAIL
(Thousands of People, Seasonally Adjusted)

	1980	1981	1982	1983	1984
Manufacturing	673.1	668.4	667.1	701.6	723.0
As % of U.S.	3.32	3.29	3.34	3.37	3.37
Durables	409.7	409.7	411.0	440.6	458.3
Lumber (24)	5.2	5.4	5.0	5.7	5.7
Furniture (25)	8.1	8.0	7.5	7.9	8.3
Stone, Clay, etc. (32)	13.1	12.5	12.5	13.4	13.6
Primary Metals (33)	17.3	16.9	16.4	17.2	17.6
Fabricated Metals (34)	54.1	52.7	52.4	55.1	56.9
Non-elec. Machin. (35)	109.6	109.9	111.0	118.9	125.9
Elec. Equipment (36)	109.4	111.7	113.6	126.3	131.9
Transport. Equip. (37)	35.4	33.3	33.0	34.7	35.3
Instruments (38)	57.6	59.4	59.5	61.5	63.1
Nondurables	263.4	258.6	256.1	261.0	264.7
Food (20)	27.4	26.4	25.9	25.8	25.8
Textiles (22)	25.4	24.6	24.1	24.7	25.6
Apparel (23)	39.8	38.7	38.2	38.3	39.1
Paper (26)	28.9	28.7	28.8	29.6	30.0
Printing (27)	43.7	43.7	44.0	44.1	43.9
Chemicals (28)	18.3	17.6	16.9	17.2	17.7
Rubber (30)	31.0	30.7	30.2	32.3	34.0
Leather (31)	20.8	20.2	19.7	19.4	18.9
Other Nondurables (39)	28.2	28.0	28.4	29.6	29.7
Nonmanufacturing	1975.2	1991.3	1997.4	2040.3	2098.5
Contract Construction	73.6	69.3	67.2	71.7	78.6
Transport & Utilities	122.3	124.7	123.7	124.2	124.7
Wholesale & Retail Trade	571.3	580.9	581.6	592.4	608.3
Finance, Insurance, etc.	159.0	163.8	164.1	167.7	173.2
Services & Miscellaneous	638.5	666.2	687.7	713.4	740.6
Government	410.5	386.3	373.1	370.8	373.1
Federal	58.3	57.0	55.2	54.6	54.5
State	97.8	95.4	90.1	88.6	88.7
Local	254.4	233.9	227.8	227.6	229.9
Nonag. Wage & Sal. Employ.*	2648.3	2659.7	2664.5	2741.9	2821.6
As % of U.S.	2.92	2.90	2.90	2.91	2.91

*EMPLOYMENT REVIEW Concept.

JANUARY CONTROL FORECAST (T5)

MASSACHUSETTS EMPLOYMENT, POPULATION, AND LABOR FORCE
(Thousands of People, Seasonally Adjusted)

	1980	1981	1982	1983	1984
Nonag. Wage & Sal. Employ.*	2648.3	2659.7	2664.5	2741.9	2821.6
Plus: All Other Nonag.	163.6	163.3	165.3	171.2	176.9
Plus: Agriculture	27.3	25.9	25.7	25.7	25.7
Total Mass. Jobs	2839.2	2848.8	2855.5	2938.8	3024.2
Less: Adjustments**	108.4	66.4	10.4	10.4	10.4
Total Employment***	2730.8	2782.4	2845.1	2928.4	3013.8
As % of U.S.	2.81	2.83	2.88	2.88	2.88
Mass. Population	5737.0	5731.1	5746.0	5777.9	5809.8
As % of U.S.	2.58	2.55	2.54	2.53	2.52
Mass. Popuin. 16 and Over	4413.2	4453.1	4481.0	4509.0	4534.4
Mass. Employment Rate****	60.0	59.7	59.5	60.8	62.2
Indexed to 1973	105.5	105.0	104.6	106.9	109.4
U.S. Employment Rate	53.7	53.6	53.2	54.0	55.0
Mass. Index Rel. To U.S.	100.2	99.9	100.3	101.1	101.5
Labor Force	2893.5	2973.7	3084.3	3132.9	3193.5
Participation Rate	65.6	66.8	68.8	69.5	70.4
U.S. Participation Rate	62.1	62.4	62.7	63.4	64.2
Number of Unemployed	162.7	191.3	239.2	204.5	179.7
Unemployment Rate	5.6	6.4	7.8	6.5	5.6
U.S. Unemployment Rate	7.1	7.6	8.9	8.1	7.4

*EMPLOYMENT REVIEW concept.
**Adjustments for double counting and place of residence.
***MASSACHUSETTS TRENDS concept.
****Total employment divided by the population sixteen and over.

JANUARY CONTROL FORECAST (T5)

MANUFACTURING EMPLOYMENT IN MASSACHUSETTS
(Thousands of People, Seasonally Adjusted)

	1980	1981	1982	1983	1984
Manufacturing	673.1	668.4	667.1	701.6	723.0
As % of U.S.	3.32	3.29	3.34	3.37	3.37
Durables	409.7	409.7	411.0	440.6	458.3
Lumber (24)	5.2	5.4	5.0	5.7	5.7
Furniture (25)	8.1	8.0	7.5	7.9	8.3
Stone, Clay, Glass (32)	13.1	12.5	12.5	13.4	13.6
Primary Metals (33)	17.3	16.9	16.4	17.2	17.6
Fabricated Metals (34)	54.1	52.7	52.4	55.1	56.9
Non-elec. Machin. (35)	109.6	109.9	111.0	118.9	125.9
Engines & Turbines (351)	6.5	6.5	6.7	7.5	8.3
Metalworking Mach. (354)	17.7	16.5	15.5	17.0	18.1
Spec. Industry M. (355)	16.8	15.4	14.0	14.8	15.4
Gen. Industrial M. (356)	9.6	9.3	9.2	10.0	10.6
Off. & Comput. M. (357)	46.4	49.8	53.3	56.5	59.5
Rest of Industry Group	12.5	12.3	12.3	13.1	14.1
Elec. Equipment (36)	109.4	111.7	113.6	126.3	131.9
Electronic Compon. (367)	47.3	48.5	49.4	58.4	62.1
Rest of Industry Group	62.1	63.2	64.2	67.8	69.8
Transport. Equip. (37)	35.4	33.3	33.0	34.7	35.3
Mot. Vehicles & P. (371)	6.3	6.0	6.5	7.3	7.5
Aircraft & Parts (372)	10.6	10.2	9.4	9.3	9.5
Rest of Industry Group	18.5	17.0	17.2	18.1	18.3
Instruments (38)	57.6	59.4	59.5	61.5	63.1
Meas. & Control (382)	19.1	20.6	21.2	22.1	22.8
Rest of Industry Group	38.5	38.8	38.3	39.4	40.3
Nondurables	263.4	258.6	256.1	261.0	264.7
Food (20)	27.4	26.4	25.9	25.8	25.8
Textiles (22)	25.4	24.6	24.1	24.7	25.6
Apparel (23)	39.8	38.7	38.2	38.3	39.1
Paper (26)	28.9	28.7	28.8	29.6	30.0
Printing (27)	43.7	43.7	44.0	44.1	43.9
Chemicals (28)	18.3	17.6	16.9	17.2	17.7
Synthet. Materials (282)	5.7	5.4	5.3	5.6	6.0
Rest of Industry Group	12.6	12.2	11.6	11.6	11.7
Rubber (30)	31.0	30.7	30.2	32.3	34.0
Leather (31)	20.8	20.2	19.7	19.4	18.9
Other Nondurables (39)	28.2	28.0	28.4	29.6	29.7

82/01/14

JANUARY CONTROL FORECAST (T5)

MANUFACTURING EMPLOYMENT IN MASSACHUSETTS
(AS A PER CENT OF U.S. EMPLOYMENT)

	1980	1981	1982	1983	1984
Manufacturing	3.32	3.29	3.34	3.37	3.37
Durables	3.36	3.37	3.43	3.47	3.48
Lumber (24)	.76	.79	.81	.81	.80
Furniture (25)	1.73	1.68	1.64	1.63	1.62
Stone, Clay, Glass (32)	1.97	1.93	1.98	1.99	1.97
Primary Metals (33)	1.51	1.49	1.54	1.56	1.57
Fabricated Metals (34)	3.36	3.33	3.36	3.36	3.35
Non-elec. Machin. (35)	4.39	4.37	4.36	4.39	4.38
Engines & Turbines (351)	4.81	4.87	4.87	4.93	4.96
Metalworking Mach. (354)	4.76	4.63	4.48	4.49	4.48
Spec. Industry M. (355)	8.05	7.52	6.95	6.93	6.89
Gen. Industrial M. (356)	3.00	2.84	2.49	2.56	2.60
Off. & Comput. M. (357)	10.80	10.97	11.23	11.24	11.18
Rest of Industry Group	1.22	1.19	1.21	1.22	1.23
Elec. Equipment (36)	5.20	5.23	5.32	5.52	5.56
Electronic Compon. (367)	8.47	8.47	8.78	8.92	8.92
Rest of Industry Group	4.02	4.04	4.08	4.15	4.16
Transport. Equip. (37)	1.89	1.80	1.82	1.79	1.77
Mot. Vehicles & P. (371)	.83	.85	.91	.91	.91
Aircraft & Parts (372)	1.62	1.55	1.54	1.53	1.52
Rest of Industry Group	4.02	3.55	3.51	3.42	3.33
Instruments (38)	8.13	8.28	8.27	8.30	8.26
Meas. & Control (382)	7.89	8.33	8.51	8.57	8.56
Rest of Industry Group	8.25	8.25	8.15	8.16	8.10
Nondurables	3.24	3.18	3.19	3.21	3.19
Food (20)	1.60	1.57	1.57	1.55	1.52
Textiles (22)	2.98	2.93	2.92	2.95	2.97
Apparel (23)	3.15	3.08	3.09	3.07	3.05
Paper (26)	4.16	4.14	4.20	4.22	4.22
Printing (27)	3.47	3.39	3.36	3.33	3.28
Chemicals (28)	1.65	1.59	1.56	1.59	1.61
Synthet. Materials (282)	2.76	2.74	2.79	2.85	2.86
Rest of Industry Group	1.39	1.34	1.30	1.31	1.31
Rubber (30)	4.24	4.12	4.15	4.23	4.30
Leather (31)	8.93	8.67	8.70	8.67	8.60
Other Nondurables (39)	6.74	6.75	6.76	6.82	6.82

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JANUARY CONTROL FORECAST (T5)

PERSONAL INCOME IN MASSACHUSETTS
(Millions of Dollars at Seasonally Adjusted Annual Rates)

	1980	1981	1982	1983	1984
INCOME BY PLACE OF WORK					
Wage & Sal. Disbursements	36356	39695	42729	47547	52819
Other Labor Income	3782	4242	4804	5655	6511
Proprietors' Income	2480	2591	2682	3051	3463
Total Labor & Propr. Inc.	42618	46528	50215	56253	62793
Breakdown by Industry:					
Farm	97	100	100	111	121
Manufacturing	12278	13346	14382	16540	18499
Durables	8618	9410	10154	11830	13311
Nondurables	3660	3936	4228	4710	5187
Construction	1662	1759	1871	2168	2567
Trade	6890	7739	8324	9188	10220
Finance,Ins.,& R.E.	2849	3161	3416	3793	4246
Transportation & Util.	2870	3184	3430	3761	4122
Services & Misc.	10037	11257	12424	13947	15575
Government	5935	5983	6268	6745	7343
Federal	1426	1549	1650	1786	1937
State & Local	4509	4433	4618	4959	5406
DERIVATION OF PERSONAL INCOME BY PLACE OF RESIDENCE					
Total L&P, Place of Work	42618	46528	50215	56253	62793
Less: Soc. Insr. Contr.	2172	2555	2776	3081	3412
Plus: Residence Adjmt.	-282	-325	-358	-386	-414
Plus: Div.,Int., & Rent	8602	10017	11188	12264	13385
Plus: Transfer Payments	8477	9421	10087	10817	11528
State Unempl. Benefits	339	407	537	493	468
All Other Transfers	8138	9014	9550	10323	11060
Personal Inc., Pl of Res.	57243	63088	68355	75867	83881
Less: Fed. Income Tax	6717	7625	7857	8078	8814
Less: Mass. Income Tax	1953	2159	2342	2638	2961
Less: Other Mass. Taxes	667	750	814	895	936
Dispos. P.I., Pl of Res.	47906	52554	57343	64256	71120
Boston CPI, 1967 = 100	240.0	266.7	284.5	307.3	331.9
Real D.P.I., '67 Dollars	19966	19704	20152	20907	21426
Real D.P.I., Per Capita	3.480	3.438	3.507	3.618	3.688
% Change	-1.0	-1.2	2.0	3.2	1.9

JANUARY CONTROL FORECAST (T5)

SUMMARY REPORT
MASSACHUSETTS EARNED FAMILY INCOME DISTRIBUTION MODEL
OF ANNUALIZED WORKING-PERIOD EARNINGS

	1980	1981	1982	1983	1984
Per Cent of Families with Female Head	15.96	16.45	16.94	17.43	17.92
Per Cent of Named Group without Earnings					
All Families	8.84	8.94	9.36	9.07	8.58
Male Headed Fams.	4.78	4.99	5.32	5.11	4.84
Female Headed Fams.	30.20	29.02	29.16	27.82	25.67
No. of Families (000)	1307.4	1311.9	1317.7	1327.2	1335.5
With Earnings	1191.9	1194.6	1194.4	1206.8	1221.0
Without Earnings	115.6	117.3	123.3	120.4	114.5
Average Earnings of All Families					
In Nominal Dollars	24399	26582	27833	30474	33565
In 1972 Dollars	12927	12668	12639	12850	13101
Average Earnings of Those with Earnings					
In Nominal Dollars	26766	29194	30707	33512	36712
In 1972 Dollars	14181	13913	13944	14131	14330
Total Earnings (mil $)	31901	34874	36677	40448	44826
As % of WSD	87.75	87.67	87.72	87.51	87.13
Displaced Log-Normal Parameters (Families with Earnings)					
Gini Coefficient	.3224	.3236	.3242	.3225	.3220
Displacement	.5051	.5559	.6395	.5860	.5198
Standard Deviation	.3835	.3724	.3533	.3636	.3791
Mean -- Nom. $ Dist.	10.53	10.65	10.76	10.81	10.86
Mean -- 1972 $ Dist.	9.89	9.91	9.97	9.95	9.92
EXPLANATORY VARIABLES					
Population 18 thru 64	3511.8	3523.8	3539.3	3564.9	3587.1
Tot. Nonag. Employment	2648.3	2659.7	2664.5	2741.9	2821.6
M & R Emp. (% of Tot.)	30.03	29.80	29.70	30.02	30.11
Female Employment	1096.3	1114.4	1117.6	1143.1	1180.7
As % of Popul. 18-64	31.22	31.62	31.58	32.06	32.91
No. Employed per Fam.	2.222	2.230	2.225	2.251	2.298
Unemployment Rate	5.6	6.4	7.8	6.5	5.6
Wage/Sal Disbursements	36356	39695	42729	47547	52819
WSD per Employee	13.729	14.930	15.733	17.013	18.338
Wage Acceleration	NA	NA	NA	NA	NA
C.P.I. (Boston)	240.0	266.7	284.5	307.3	331.9

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JANUARY CONTROL FORECAST (T5)

PER CENT OF MASSACHUSETTS FAMILIES
WITH EARNED FAMILY INCOME IN GIVEN NOMINAL DOLLAR CLASSES
(MEFID MODEL OF ANNUALIZED WORKING-PERIOD EARNINGS)

EARNINGS CLASS: (Nominal Dollars)	1980	1981	1982	1983	1984
$0	8.84	8.94	9.36	9.07	8.58
1 and over	91.16	91.06	90.64	90.93	91.42
$1 - 999	.62	.71	.86	.70	.56
1000 - 1999	.37	.35	.36	.30	.24
2000 - 2999	.51	.47	.46	.38	.31
3000 - 3999	.67	.60	.57	.47	.38
4000 - 4999	.86	.74	.69	.57	.47
5000 - 5999	1.05	.90	.82	.68	.56
6000 - 6999	1.25	1.06	.96	.80	.66
7000 - 7999	1.46	1.22	1.10	.92	.76
8000 - 8999	1.66	1.39	1.24	1.04	.87
9000 - 9999	1.85	1.55	1.37	1.16	.98
10000 - 10999	2.02	1.70	1.51	1.28	1.08
11000 - 11999	2.18	1.84	1.63	1.40	1.19
12000 - 12999	2.33	1.97	1.75	1.51	1.29
13000 - 13999	2.45	2.09	1.86	1.61	1.39
14000 - 14999	2.55	2.19	1.96	1.71	1.48
15000 - 19999	13.46	11.91	10.84	9.68	8.55
20000 - 24999	13.04	12.18	11.46	10.62	9.71
25000 - 34999	20.12	20.41	20.25	19.91	19.18
35000 - 49999	15.06	17.30	18.54	20.06	21.15
50000 and over	7.66	10.50	12.41	16.14	20.63
20000 and over	55.88	60.38	62.66	66.73	70.67
$0 - 1000	9.46	9.65	10.21	9.77	9.13
0 - 2000	9.83	10.00	10.57	10.07	9.37
0 - 4000	11.01	11.07	11.61	10.92	10.06
0 - 6000	12.92	12.71	13.12	12.17	11.09
0 - 9000	17.28	16.38	16.41	14.92	13.38
0 - 12000	23.34	21.46	20.93	18.76	16.62
0 - 15000	30.66	27.71	26.50	23.59	20.79
0 - 20000	44.12	39.62	37.34	33.27	29.33
0 - 25000	57.16	51.80	48.80	43.89	39.04
0 - 35000	77.28	72.21	69.05	63.80	58.22
0 - 50000	92.34	89.50	87.59	83.86	79.37

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JANUARY CONTROL FORECAST (T5)

SUMMARY REPORT
MASSACHUSETTS ECONOMIC POLICY ANALYSIS MODEL
(Seasonally Adjusted Annual Rates)

	1981:2	1981:3	1981:4	1982:1	1982:2	1982:3
Employment--Nonag. W. & S.	2676	2629	2650	2655	2659	2665
% Change	-1.2	-6.9	3.3	.8	.6	.9
Manufacturing	673	664	668	664	663	667
% Change	2.6	-5.5	2.3	-2.3	-.1	1.9
Non-Manufacturing	2003	1965	1982	1992	1996	1999
% Change	-2.4	-7.3	3.6	1.9	.8	.6
Unemployment Rate	5.9	6.6	7.5	7.8	7.9	7.8
Employment Rate Index*	105.8	103.7	104.3	104.4	104.5	104.5
% Change	-1.9	-7.7	2.3	.4	.2	.3
Relative to U.S. Index*	100.5	98.4	99.6	100.1	100.3	100.3
Rate of Wage Change	10.5	7.4	7.3	6.5	7.4	9.3
Wage Index Rel. to U.S.*	94.0	93.8	93.8	93.9	93.9	93.9
Avg. Weekly Hours in Mfg.	40.3	40.0	40.1	40.1	40.1	40.2
Rate of Price Inflation	7.1	8.9	7.1	4.3	6.5	7.5
Relative to U.S. CPI*	97.1	96.5	96.1	95.6	95.6	95.6
Personal Income (mil$)	62783	63399	64770	65873	67215	69248
% Change	9.3	4.0	8.9	7.0	8.4	12.7
Disposable Income (mil$)	52253	52647	54115	55006	56046	58450
% Change	8.5	3.1	11.6	6.8	7.8	18.3
Real Per Cap. D.I. Index*	105.6	104.2	105.2	105.7	105.9	108.4
Relative to U.S.*	104.5	103.4	104.3	105.2	105.4	105.4
Rel. Business Cost Index*	96.6	96.7	96.5	96.4	96.4	96.5
Manufacturing*	95.2	95.0	94.9	94.8	94.8	94.9
Non-Manufacturing*	97.1	97.4	97.2	97.1	97.1	97.2

*Indexes equal 100 in calendar 1973.

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JANUARY CONTROL FORECAST (T5)

EMPLOYMENT IN MASSACHUSETTS--INDUSTRY DETAIL
(Tnousands of People, Seasonally Adjusted)

	1981:2	1981:3	1981:4	1982:1	1982:2	1982:3
Manufacturing	673.2	663.7	667.6	663.6	663.4	666.6
As % of U.S.	3.30	3.24	3.32	3.33	3.34	3.34
Durables	412.7	407.1	409.6	406.3	407.8	411.3
Lumber (24)	5.5	5.0	5.3	5.1	4.9	5.0
Furniture (25)	8.3	7.7	7.7	7.6	7.5	7.5
Stone, Clay, etc. (32)	12.6	12.2	12.5	12.3	12.3	12.5
Primary Metals (33)	17.0	16.9	16.8	16.4	16.3	16.4
Fabricated Metals (34)	52.7	52.8	52.0	51.8	51.9	52.4
Non-elec. Machin. (35)	110.4	109.5	109.9	110.0	110.4	111.1
Elec. Equipment (36)	112.2	112.2	112.5	111.4	112.4	113.7
Transport. Equip. (37)	34.2	31.0	33.5	32.8	32.7	33.1
Instruments (38)	59.8	59.7	59.3	58.9	59.3	59.7
Nondurables	260.5	256.6	257.9	257.3	255.6	255.2
Food (20)	26.7	26.1	26.2	26.2	25.9	25.7
Textiles (22)	24.8	24.5	24.0	24.3	23.9	23.9
Apparel (23)	40.0	36.6	38.8	38.8	38.2	37.9
Paper (26)	28.6	28.4	29.1	29.0	28.8	28.6
Printing (27)	43.4	43.7	44.1	44.1	44.0	43.9
Chemicals (28)	17.9	17.5	17.1	17.0	16.9	16.8
Rubber (30)	30.9	30.9	30.2	29.8	29.9	30.3
Leather (31)	20.3	20.2	20.4	20.1	19.7	19.6
Other Nondurables (39)	28.0	28.8	28.0	28.1	28.2	28.5
Nonmanufacturing	2002.9	1965.0	1982.4	1991.6	1995.8	1998.9
Contract Construction	68.8	64.1	67.5	67.4	67.3	66.8
Transport & Utilities	125.5	123.7	124.2	124.1	123.8	123.5
Wholesale & Retail Trade	580.7	584.6	577.5	580.5	581.5	582.0
Finance, Insurance, etc.	163.4	166.9	162.9	163.6	164.0	164.3
Services & Miscellaneous	664.5	663.8	675.3	681.3	685.8	689.5
Government	400.0	361.9	375.1	374.6	373.5	372.9
Federal	57.1	56.8	56.0	55.8	55.2	54.8
State	100.0	91.3	91.4	90.8	90.2	90.3
Local	242.8	213.8	227.7	228.0	228.1	227.7
Nonag. Wage & Sal. Employ.*	2676.1	2628.7	2650.0	2655.3	2659.3	2665.5
As % of U.S.	2.92	2.86	2.89	2.90	2.90	2.90

*EMPLOYMENT REVIEW Concept.

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JANUARY CONTROL FORECAST (T5)

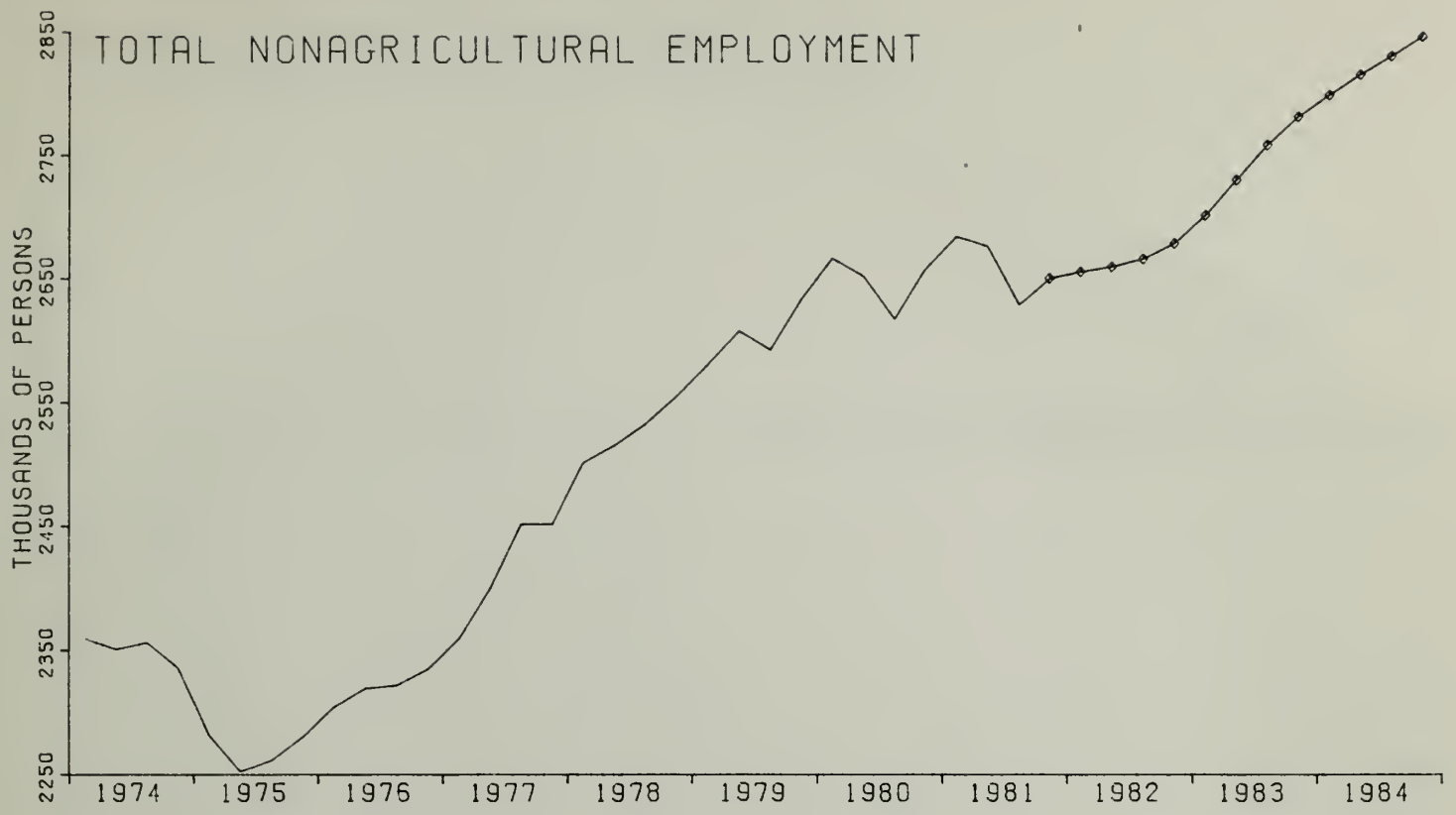
MASSACHUSETTS EMPLOYMENT, POPULATION, AND LABOR FORCE
(Thousands of People, Seasonally Adjusted)

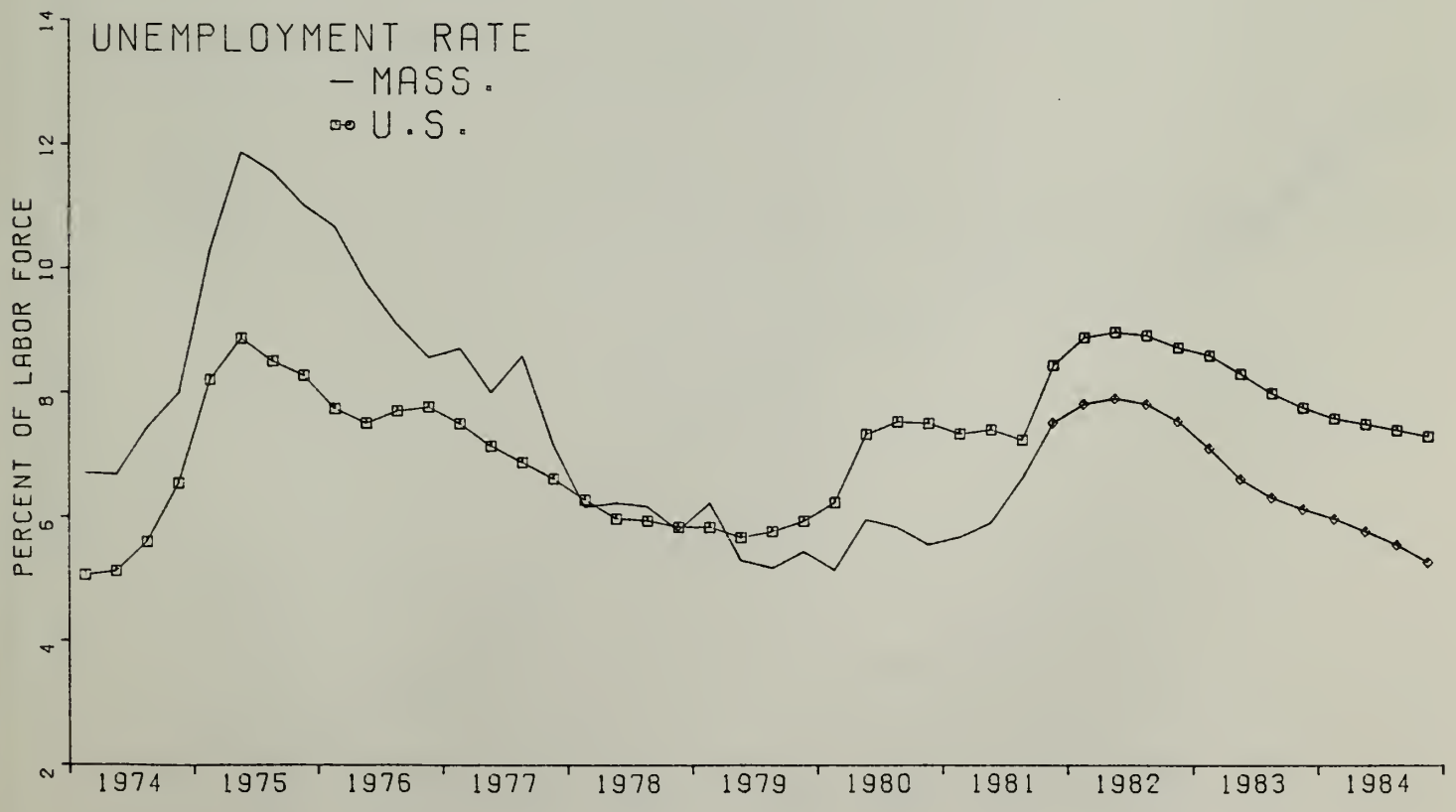
	1981:2	1981:3	1981:4	1982:1	1982:2	1982:3
Nonag. Wage & Sal. Employ.*	2676.1	2628.7	2650.0	2655.3	2659.3	2665.5
Plus: All Other Nonag.	162.4	164.2	163.9	164.4	164.9	165.4
Plus: Agriculture	24.4	27.5	25.7	25.7	25.7	25.7
Total Mass. Jobs	2862.9	2820.4	2839.6	2845.4	2849.8	2856.6
Less: Adjustments**	118.6	43.6	10.4	10.4	10.4	10.4
Total Employment***	2744.3	2776.8	2829.2	2835.0	2839.4	2846.2
As % of U.S.	2.78	2.81	2.89	2.89	2.89	2.88
Mass. Population	5730.0	5729.4	5733.9	5737.6	5741.4	5749.1
As % of U.S.	2.56	2.55	2.55	2.54	2.54	2.53
Mass. Populn. 16 and Over	4448.0	4457.3	4467.7	4472.4	4477.2	4484.1
Mass. Employment Rate****	60.2	59.0	59.3	59.4	59.4	59.4
Indexed to 1973	105.8	103.7	104.3	104.4	104.5	104.5
U.S. Employment Rate	53.7	53.8	53.4	53.2	53.1	53.1
Mass. Index Rel. To U.S.	100.5	98.4	99.6	100.1	100.3	100.3
Labor Force	2916.3	2973.5	3058.8	3074.9	3082.7	3087.1
Participation Rate	65.6	66.7	68.5	68.8	68.9	68.8
U.S. Participation Rate	62.6	62.2	62.4	62.5	62.6	62.7
Number of Unemployed	172.0	196.6	229.6	239.9	243.3	240.9
Unemployment Rate	5.9	6.6	7.5	7.8	7.9	7.8
U.S. Unemployment Rate	7.4	7.2	8.4	8.9	9.0	8.9

*EMPLOYMENT REVIEW concept.
**Adjustments for double counting and place of residence.
***MASSACHUSETTS TRENDS concept.
****Total employment divided by the population sixteen and over.

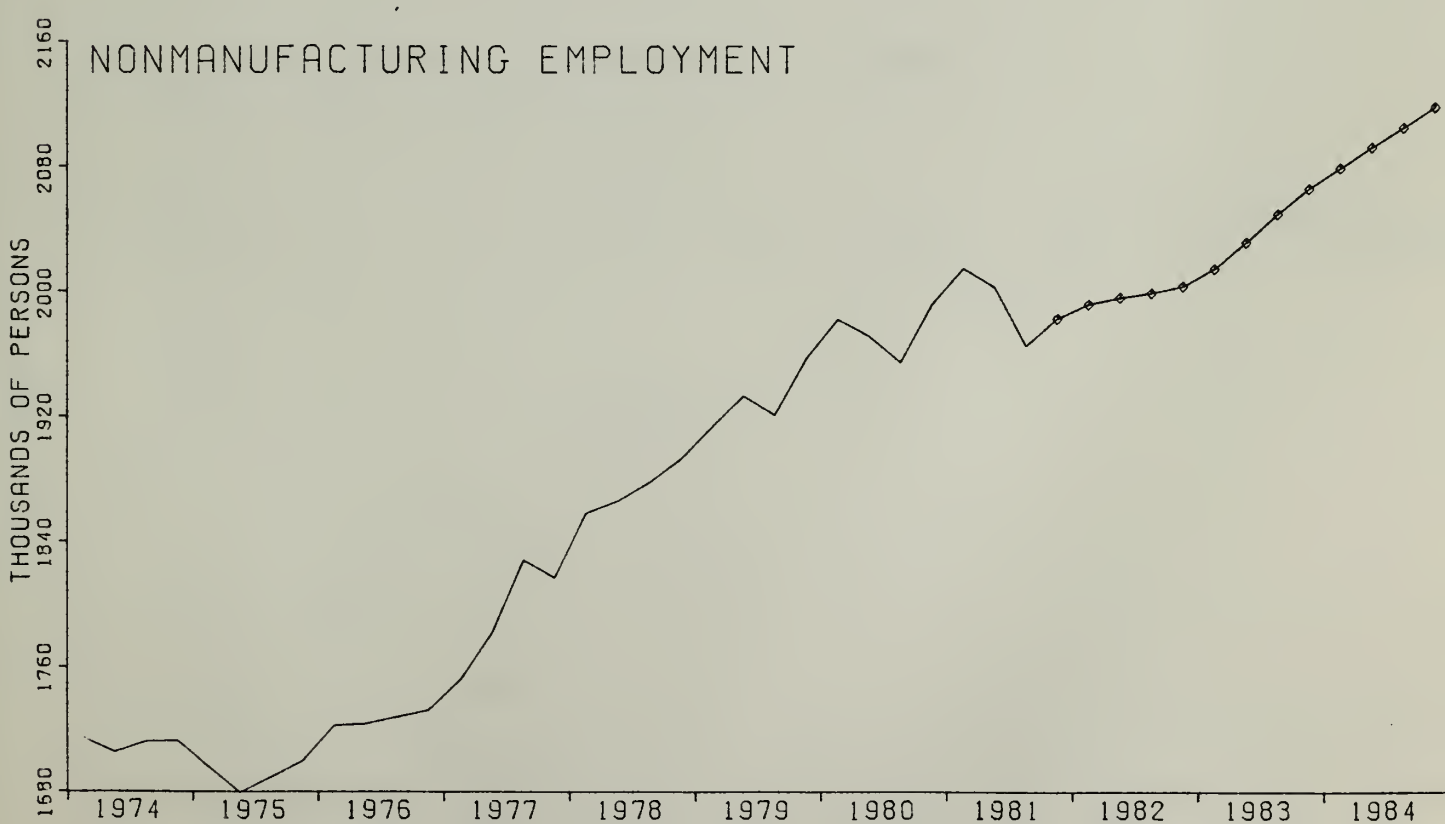
Data Resources Forecast of the U.S. Economy - CONTROL122181

	1981		1982				1983		Years				
	III	IV	I	II	III	IV	I	II	1980	1981	1982	1983	1984
GNP and Its Components Billions of Dollars - SAAR													
Total Consumption	1883.9	1911.9	1956.0	1997.2	2052.0	2106.8	2170.8	2233.3	1672.7	1858.7	2028.0	2261.6	2500.4
Nonres. Fixed Investment	335.1	331.2	330.8	334.1	342.6	354.1	367.0	382.4	295.9	326.7	340.4	390.1	451.6
Res. Fixed Investment	100.5	97.1	97.7	108.5	121.2	132.8	144.7	155.3	105.3	106.3	115.1	158.8	188.7
Inventory Investment	27.5	14.0	-5.8	-5.8	5.4	14.7	17.2	20.0	-5.9	17.3	2.1	21.8	29.3
Net Exports	29.3	20.8	17.1	14.7	14.1	13.0	12.0	14.4	23.3	25.0	14.7	15.5	19.2
Federal Purchases	226.4	241.9	245.5	250.4	256.4	266.9	269.5	273.0	198.9	227.4	254.8	278.0	305.5
State and Local Govt. Purchases	362.5	366.5	371.3	375.1	379.6	385.9	393.2	401.4	335.8	360.5	378.0	405.7	441.5
Gross National Product	2965.0	2983.4	3012.6	3074.3	3171.3	3274.3	3374.4	3479.8	2626.1	2921.8	3133.1	3531.4	3936.2
Real GNP (1972 Dollars)	1515.8	1491.1	1483.0	1488.4	1508.6	1524.2	1540.5	1558.5	1480.7	1508.4	1501.1	1565.9	1624.3
Prices and Wages - Annual Rates of Change													
Implicit Price Deflator	9.9	9.5	6.3	6.9	7.3	9.1	8.1	7.9	9.0	9.2	7.7	8.0	7.5
CPI - All Urban Consumers	11.9	8.6	6.6	6.6	7.5	7.9	8.6	8.0	13.5	10.3	7.9	7.9	7.6
Producer Price Index - Finished Goods	4.0	4.8	4.8	6.2	6.8	7.9	8.9	8.4	13.5	9.2	5.7	8.0	8.3
Compensation per Hour	9.3	8.5	8.3	7.9	8.5	8.7	9.3	8.8	9.9	10.1	8.5	8.8	8.8
Core Inflation	8.7	8.3	7.8	7.4	7.1	6.9	6.8	6.8	9.2	8.8	7.3	6.8	7.1
Production and Other Key Measures													
Industrial Production (1967=1.000)	1.531	1.469	1.452	1.464	1.497	1.530	1.563	1.593	1.470	1.510	1.486	1.603	1.688
Annual Rate of Change	1.5	-15.3	-4.4	3.3	9.2	9.3	8.7	7.8	-3.6	2.7	-1.6	7.9	5.3
Housing Starts (Mil. Units)	0.968	0.871	0.977	1.180	1.298	1.469	1.553	1.617	1.303	1.102	1.231	1.628	1.805
Retail Unit Car Sales (Mil. Units)	9.1	7.4	8.1	8.6	9.3	9.8	9.9	9.9	9.0	8.6	8.9	10.0	10.4
Unemployment Rate (%)	7.2	8.4	8.9	9.0	8.9	8.7	8.6	8.3	7.1	7.6	8.9	8.1	7.4
Federal Budget Surplus (NIA)	-55.7	-93.9	-97.9	-93.4	-120.1	-107.7	-88.5	-74.9	-61.2	-60.8	-104.8	-89.9	-84.0
Money and Interest Rates													
Money Supply (M-1B)	431.6	436.8	442.1	445.0	453.5	458.6	464.3	470.8	417.0	436.8	458.6	481.8	504.3
Annual Rate of Change	0.2	4.9	5.0	2.6	7.9	4.5	5.1	5.7	7.3	4.7	5.0	5.1	4.7
New AA Corp. Utility Rate (%)	17.03	16.62	14.86	13.88	13.96	14.56	14.03	13.40	13.14	16.21	14.32	13.41	12.14
New High-Grade Corp. Bond Rate (%)	15.99	15.52	13.98	13.14	13.28	13.89	13.38	12.78	12.47	15.02	13.57	12.79	11.60
Federal Funds Rate (%)	17.58	13.46	11.23	10.35	12.09	13.30	13.25	12.71	13.36	16.35	11.74	12.92	11.19
Prime Rate (%)	20.32	16.97	14.14	12.92	14.54	15.19	14.95	14.64	15.27	18.86	14.20	14.58	13.59
Incomes - Billions of Dollars													
Personal Income	2441.7	2482.9	2522.1	2571.8	2651.6	2728.3	2797.7	2868.7	2160.3	2403.2	2618.4	2910.4	3221.7
Real Disposable Income (%Ch)	2.6	1.4	-0.6	0.9	11.1	3.7	3.2	2.4	0.7	2.1	2.3	4.7	3.7
Saving Rate (%)	5.2	6.0	5.3	5.0	6.5	6.5	6.3	5.9	5.6	5.3	5.9	6.5	6.8
Profits Before Tax	234.4	200.5	188.5	200.1	222.8	245.4	256.3	275.2	245.5	230.2	214.2	282.8	321.8
Profits After Tax	156.3	136.2	130.0	137.1	151.2	165.3	174.1	186.4	163.2	153.6	145.9	191.3	222.4
Company Profits	112.5	109.3	104.8	105.0	108.4	112.3	116.2	119.5	106.0	109.2	107.6	121.9	139.6
Four-Qtr. Percent Change	10.6	0.7	-1.7	-3.1	-3.7	2.7	10.8	13.8	0.2	3.1	-1.5	13.3	14.5
Composition of Real GNP - Annual Rates of Change													
Gross National Product	1.4	-6.4	-2.1	1.5	5.5	4.2	4.3	4.8	-0.2	1.9	-0.5	4.3	3.7
Final Sales	0.3	-4.3	0.2	1.5	4.2	3.2	4.1	4.5	0.7	1.2	0.0	3.8	3.6
Total Consumption	3.3	-2.0	2.5	2.0	4.2	3.7	4.2	4.5	0.5	2.6	1.6	3.9	3.4
Nonres. Fixed Investment	7.1	-11.6	-6.8	-2.2	3.5	6.0	6.1	8.2	-3.0	1.9	-2.9	5.9	7.0
Equipment	6.3	-16.2	-4.8	1.8	8.2	8.8	8.3	10.2	-4.2	0.7	-2.3	8.4	7.8
Nonres. Construction	8.4	-0.6	-10.8	-10.3	-6.1	-0.2	1.2	3.5	-0.1	4.8	-4.3	0.3	5.1
Res. Fixed Investment	-36.3	-17.1	-5.3	40.1	42.0	30.9	26.8	19.5	-18.6	-5.4	0.3	25.3	9.3
Exports	-3.4	-5.2	-3.5	-0.5	3.7	6.1	6.9	7.3	9.6	-0.3	-1.8	6.0	6.8
Imports	5.3	6.0	-0.7	3.2	7.1	8.3	6.7	7.1	-0.1	6.0	4.4	6.9	6.3
Federal Government	3.4	2.5	1.9	2.8	6.5	-7.6	-2.4	-1.1	6.4	1.7	1.6	-1.3	0.0
State and Local Governments	-4.1	-3.4	-2.3	-3.3	-2.8	-1.1	-0.7	0.1	1.0	-1.1	-3.0	-0.9	0.9


TOTAL NONAGRICULTURAL EMPLOYMENT
THOUSANDS OF PERSONS
2250
2350
2450
2550
2650
2750
2850
1974
1975
1976
1977
1978
1979
1980
1981
1982
1983
1984


UNEMPLOYMENT RATE
— MASS.
U.S.
PERCENT OF LABOR FORCE
2
4
6
8
10
12
14
1974
1975
1976
1977
1978
1979
1980
1981
1982
1983
1984

MANUFACTURING EMPLOYMENT
THOUSANDS OF PERSONS
560
600
640
680
720
760
800
1974
1975
1976
1977
1978
1979
1980
1981
1982
1983
1984


NONMANUFACTURING EMPLOYMENT
THOUSANDS OF PERSONS
1680
1760
1840
1920
2000
2080
2160
1974
1975
1976
1977
1978
1979
1980
1981
1982
1983
1984

REAL PER CAPITA DISPOSABLE INCOME
THOUSANDS OF 1972 DOLLARS
3.18
3.28
3.38
3.48
3.58
3.68
3.78
1974
1975
1976
1977
1978
1979
1980
1981
1982
1983
1984

REAL PER CAPITA DISPOSABLE INCOME
MASS. RELATIVE TO U.S.
INDEX 1973=100
96
98
100
102
104
106
108
1974
1975
1976
1977
1978
1979
1980
1981
1982
1983
1984

The January 1982

Massachusetts Revenue Analysis and Forecasting Model Tax Forecast

by

George Treyz & Roy Williams*

	Fiscal 1982	Fiscal 1983
	(Millions of Dollars)	
Alcoholic Beverages	85	89
Commercial Banks	42	42
Savings Banks	40	41
Cigarettes	150	148
Corporations	448	407
Deeds	13	16
Estate and Inheritance	97	95
Income	2239	2464
Insurance	115	104
Motor Fuel	273	267
Public Utilities	18	16
Racing and Boxing	35	39
Room Occupancy	24	27
Sales and Use	904	985
Regular	600	636
Meals	165	185
Motor Vehicle	139	166
Misc. Dept. of Revenue	0	1
Beano, Raffles & Bazaars	6	7
Total (of amounts before rounding)	4489	4750

*Director and Associate Director, respectively, of the MEPA project, Economics Department, University of Massachusetts, Amherst, MA 01003. (Tel. 413-545-0915).
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JANUARY CONTROL FORECAST (T5)

MASSACHUSETTS TAX REVENUES
(Millions of Dollars)

	Fiscal 1981	Fiscal 1982	Fiscal 1983	Fiscal 1984
Alcoholic Beverages	85	85	89	93
Commercial Banks	38	42	42	46
Savings Banks	38	40	41	45
Cigarettes	148	150	148	149
Corporations	442	448	407	483
Deeds	13	13	16	17
Estate and Inheritance	82	97	95	102
Income	2058	2239	2464	2788
Insurance	114	115	104	125
Motor Fuel	238	273	267	276
Public Utilities	18	18	16	19
Room Occupancy	22	24	27	31
Sales and Use	860	904	986	1110
Regular	572	600	636	716
Meals	155	165	185	207
Motor Vehicle	132	139	166	187
Misc. Dept. of Revenue*	0	0	1	1
Dept. of Revenue Total	4156	4448	4704	5286
Racing and Boxing	32	35	39	43
Beano, Raffles & Bazaars**	6	6	7	8
Comptrollers' Rept. Total	4194	4489	4750	5337

*Includes Beano, Raffles & Bazaars before January, 1978
**As reported by Comptroller less amount reported by D. of R.

82/01/14

JANUARY CONTROL FORECAST (T5)

MASSACHUSETTS TAX REVENUES
(Per Cent Changes at Annual Rates)

	Fiscal 1981	Fiscal 1982	Fiscal 1983	Fiscal 1984
Alcoholic Beverages	5.19	-.13	5.21	4.67
Commercial Banks	2.33	8.75	1.57	9.55
Savings Banks	13.78	6.66	2.26	9.72
Cigarettes	2.85	1.44	-1.27	.69
Corporations	.79	1.37	-9.28	18.68
Deeds	5.88	-.82	21.34	11.87
Estate and Inheritance	4.01	18.14	-1.70	7.17
Income	10.63	8.81	10.04	13.17
Insurance	2.25	.43	-8.79	19.48
Motor Fuel	12.02	14.94	-2.11	3.10
Public Utilities	-23.52	1.49	-9.63	18.84
Room Occupancy	23.87	7.33	11.82	17.08
Sales and Use	15.38	5.13	9.09	12.51
Regular	13.10	4.89	5.91	12.66
Meals	13.01	6.25	11.82	11.83
Motor Vehicle	29.97	4.89	19.56	12.71
Misc. Dept. of Revenue*	-46.57	-11.95	36.73	11.75
Dept. of Revenue Total	9.48	7.03	5.75	12.38
Racing and Boxing	9.77	7.27	12.22	11.80
Beano, Raffles & Bazaars**	18.83	7.68	11.76	11.81
Comptrollers' Rept. Total	9.49	7.03	5.81	12.37

*Includes Beano, Raffles & Bazaars before January, 1978
**As reported by Comptroller less amount reported by D. of R.

JANUARY CONTROL FORECAST (T5)

ANALYSIS OF MASSACHUSETTS TAX COLLECTIONS
(Tax amounts in Millions of Dollars)

	Fiscal 1981	Fiscal 1982	Fiscal 1983	Fiscal 1984
ALCOHOLIC BEVERAGES	84.7	84.6	89.0	93.2
Surprise Factor	0.0	.1	0.0	0.0
Processing Factor	0.0	0.0	0.0	0.0
Echo Factor	NM	NM	NM	NM
Portion explained below (NS)	84.7	84.6	89.0	93.2
Portion explained below (SA)	84.7	84.6	89.1	93.2
Mult	1.01	1.01	1.01	1.01
Tax Rate (per 67$ of sales)	.24	.24	.24	.24
Population over 18	4247	4269	4302	4337
Real disp. income per adult(1.2*)	6.198	6.117	6.344	6.542
Tax effect ratio (-1.3*)	.89	.90	.90	.91
*Elasticity (power diff. from 1 to which variable is raised.)				
Same variable without exponent:				
Real disp. income per adult	4.680	4.628	4.774	4.899
Tax effect ratio	1.09	1.09	1.08	1.07
COMMERCIAL BANKS	38.2	41.6	42.2	46.3
Surprise Factor	.0	1.5	0.0	0.0
Processing Factor	7.0	0.0	0.0	0.0
Echo Factor	NM	NM	NM	NM
Portion explained below (NS)	31.2	40.1	42.2	46.3
Portion explained below (SA)	31.2	40.2	42.1	46.0
Mult	.81	1.00	1.00	1.00
Tax Rate	.1254	.1254	.1254	.1254
Commercial bank profits (mil$)	2001	2099	2202	2406
SAVINGS BANKS	37.6	40.2	41.1	45.1
Surprise Factor	.0	1.6	0.0	0.0
Processing Factor	0.0	0.0	0.0	0.0
Echo Factor	NM	NM	NM	NM
Portion explained below (NS)	37.6	38.6	41.1	45.1
Portion explained below (SA)	37.3	38.5	40.7	44.6
Mult	1.067	1.067	1.067	1.067
Tax Rate (Fixed wt. index*)	1.00	1.00	1.00	1.00
Sav. bank deposits index (.37*)	1.047	1.083	1.134	1.224
Comm. bank profits index (.63*)	1.46	1.50	1.60	1.76

*Weights used for rate and base composite indexes.

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JANUARY CONTROL FORECAST (T5)

ANALYSIS OF MASSACHUSETTS TAX COLLECTIONS
(Per Cent Changes at Annual Rates)

	Fiscal 1981	Fiscal 1982	Fiscal 1983	Fiscal 1984
ALCOHOLIC BEVERAGES	5.19	-.13	5.21	4.67
Surprise Factor	0.00	.09	0.00	0.00
Processing Factor	0.00	0.00	0.00	0.00
Echo Factor	0.00	0.00	-.10	0.00
Portion explained below (NS)	5.19	-.22	5.31	4.67
Portion explained below (SA)	5.18	-.19	5.31	4.66
Mult	5.25	0.00	0.00	0.00
Tax Rate (per 67$ of sales)	0.00	0.00	0.00	0.00
Population over 18	.47	.51	.78	.82
Real disp. income per adult(1.2*)	-1.56	-1.31	3.72	3.11
Tax effect ratio (-1.3*)	1.05	.62	.74	.68
*Elasticity (power diff. from 1 to which variable is raised.)				
Same variable without exponent:				
Real disp. income per adult	-1.32	-1.11	3.14	2.62
Tax effect ratio	-.79	-.47	-.56	-.52
COMMERCIAL BANKS	2.33	8.75	1.57	9.55
Surprise Factor	0.00	4.81	0.00	0.00
Processing Factor	18.73	0.00	0.00	0.00
Echo Factor	0.00	-24.37	-3.81	0.00
Portion explained below (NS)	-16.41	28.31	5.38	9.55
Portion explained below (SA)	-15.77	28.77	4.89	9.30
Mult	-24.78	22.75	0.00	0.00
Tax Rate	0.00	0.00	0.00	0.00
Commercial bank profits (mil$)	11.99	4.90	4.89	9.30
SAVINGS BANKS	13.78	6.66	2.26	9.72
Surprise Factor	.00	4.21	0.00	0.00
Processing Factor	0.00	0.00	0.00	0.00
Echo Factor	-.00	-.00	-4.21	0.00
Portion explained below (NS)	13.78	2.44	6.47	9.72
Portion explained below (SA)	13.88	3.03	5.76	9.59
Mult	5.52	0.00	0.00	0.00
Tax Rate (Fixed wt. index*)	0.00	0.00	0.00	0.00
Sav. bank deposits index (.37*)	2.69	3.46	4.70	7.99
Comm. bank profits index (.63*)	10.28	2.85	6.21	10.25

*Weights used for rate and base composite indexes.

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JANUARY CONTROL FORECAST (T5)

ANALYSIS OF MASSACHUSETTS TAX COLLECTIONS
(Tax amounts in Millions of Dollars)

	Fiscal 1981	Fiscal 1982	Fiscal 1983	Fiscal 1984
CIGARETTES	148.1	150.3	148.4	149.4
Surprise Factor	.0	2.8	0.0	0.0
Processing Factor	3.0	0.0	0.0	0.0
Echo Factor	NM	NM	NM	NM
Portion explained below (NS)	145.1	147.4	148.4	149.4
Portion explained below (SA)	145.1	147.4	148.3	149.3
Mult	1.02	1.03	1.03	1.03
Tax Rate	.21	.21	.21	.21
Population over 18	4247	4269	4302	4337
Per capita Use (Time trend)	.664	.656	.648	.641
Tax effect ratio (-.75*)	.83	.84	.85	.86
*Elasticity (power diff. from 1 to which variable is raised.)				
Same variable without exponent:				
Tax effect ratio	1.28	1.25	1.24	1.22
CORPORATIONS	442.3	448.4	406.7	482.7
Surprise Factor	.0	4.3	0.0	0.0
Processing Factor	-15.0	0.0	0.0	0.0
Echo Factor	NM	NM	NM	NM
Portion explained below (NS)	457.3	444.0	406.7	482.7
Portion explained below (SA)	457.4	444.2	406.6	481.1
Mult	.95	.98	.98	.98
Corporate profits (1.01*)	6196	5802	5302	6284
Tax rate	.095	.095	.095	.095
Manufact. Capital stock (.08*)	21654	25273	29413	34701
Tax rate	.0026	.0026	.0026	.0026
Mnfact. equip. investment (-.09*)	2385	2544	2843	3393
Credit rate	.03	.03	.03	.03
*Probable approx. contribution to total collections in a typical year.				
DEEDS	13.0	12.9	15.6	17.5
Surprise Factor	.0	-1.2	0.0	0.0
Processing Factor	0.0	0.0	0.0	0.0
Echo Factor	NM	NM	NM	NM
Portion explained below (NS)	13.0	14.0	15.6	17.5
Portion explained below (SA)	13.0	14.1	15.7	17.5
Mult	.84	.84	.84	.84
Tax Rate (per $500)	1.14	1.14	1.14	1.14
Disposable income	50432	54454	60693	67870

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JANUARY CONTROL FORECAST (T5)

ANALYSIS OF MASSACHUSETTS TAX COLLECTIONS
(Per Cent Changes at Annual Rates)

	Fiscal 1981	Fiscal 1982	Fiscal 1983	Fiscal 1984
CIGARETTES	2.85	1.44	-1.27	.69
Surprise Factor	0.00	1.94	0.00	0.00
Processing Factor	2.08	0.00	0.00	0.00
Echo Factor	0.00	-2.10	-1.88	0.00
Portion explained below (NS)	.76	1.60	.61	.69
Portion explained below (SA)	.79	1.62	.60	.70
Mult	-.39	1.00	0.00	0.00
Tax Rate	0.00	0.00	0.00	0.00
Population over 18	.47	.51	.78	.82
Per capita Use (Time trend)	-1.19	-1.19	-1.19	-1.19
Tax effect ratio (-.75*)	1.93	1.31	1.03	1.08
*Elasticity (power diff. from 1 to which variable is raised.)				
Same variable without exponent:				
Tax effect ratio	-2.53	-1.73	-1.36	-1.43
CORPORATIONS	.79	1.37	-9.28	18.68
Surprise Factor	0.00	.95	0.00	0.00
Processing Factor	-3.42	0.00	0.00	0.00
Echo Factor	0.00	3.32	-.89	0.00
Portion explained below (NS)	4.20	-2.90	-8.40	18.68
Portion explained below (SA)	4.27	-2.88	-8.46	18.31
Mult	3.76	3.00	0.00	0.00
Corporate profits (1.01*)	.65	-6.35	-8.62	18.53
Tax rate	0.00	0.00	0.00	0.00
Manufact. Capital stock (.08*)	17.52	16.71	16.38	17.98
Tax rate	0.00	0.00	0.00	0.00
Mnfact. equip. investment (-.09*)	15.10	6.69	11.74	19.35
Credit rate	0.00	0.00	0.00	0.00
*Probable approx. contribution to total collections in a typical year.				
DEEDS	5.88	-.82	21.34	11.87
Surprise Factor	0.00	-8.91	0.00	0.00
Processing Factor	0.00	0.00	0.00	0.00
Echo Factor	-.00	-.00	10.00	0.00
Portion explained below (NS)	5.88	8.09	11.34	11.87
Portion explained below (SA)	5.71	7.97	11.46	11.83
Mult	-4.77	0.00	0.00	0.00
Tax Rate (per $500)	0.00	0.00	0.00	0.00
Disposable income	11.00	7.97	11.46	11.83

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JANUARY CONTROL FORECAST (T5)

ANALYSIS OF MASSACHUSETTS TAX COLLECTIONS
(Tax amounts in Millions of Dollars)

	Fiscal 1981	Fiscal 1982	Fiscal 1983	Fiscal 1984
ESTATE AND INHERITANCE	82.1	97.0	95.4	102.2
Surprise Factor	0.0	6.1	0.0	0.0
Processing Factor	0.0	0.0	0.0	0.0
Echo Factor	NM	NM	NM	NM
Portion explained below (NS)	82.1	90.9	95.4	102.2
Portion explained below (SA)	82.2	90.9	95.5	102.3
Mult	.98	1.00	1.00	1.00
Household net worth	119692	129769	136288	145960
INCOME	2057.7	2239.0	2463.8	2788.3
Surprise Factor (not used)	.0	14.5	0.0	0.0
Processing Factor	-25.0	-37.0	-60.8	-65.6
Echo Factor	NM	NM	NM	NM
Portion explained (see (NS)	2082.7	2276.0	2524.6	2854.0
separate detail) (SA)	2082.7	2276.0	2524.6	2854.0
Mult	1.09	1.09	1.09	1.09
Earned Income	41832	44955	49312	55008
Tax Rate	.0538	.0538	.0538	.0538
Unearned Income	2139	2351	2470	2708
Tax Rate	.1075	.1075	.1075	.1075
Total Deductions & Exemptions	10583	10841	11205	11768
INSURANCE	114.0	114.5	104.4	124.8
Surprise Factor	-.0	.4	0.0	0.0
Processing Factor	0.0	0.0	0.0	0.0
Echo Factor	NM	NM	NM	NM
Portion explained below (NS)	114.0	114.1	104.4	124.8
Portion explained below (SA)	114.1	114.3	104.4	123.8
Mult	.83	.89	.89	.89
Corporate profits	6196	5802	5302	6284

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JANUARY CONTROL FORECAST (T5)

ANALYSIS OF MASSACHUSETTS TAX COLLECTIONS
(Per Cent Changes at Annual Rates)

	Fiscal 1981	Fiscal 1982	Fiscal 1983	Fiscal 1984
ESTATE AND INHERITANCE	4.01	18.14	-1.70	7.17
Surprise Factor	0.00	7.45	0.00	0.00
Processing Factor	0.00	0.00	0.00	0.00
Echo Factor	-4.11	0.00	-6.62	0.00
Portion explained below (NS)	8.12	10.69	4.92	7.17
Portion explained below (SA)	8.03	10.59	5.02	7.10
Mult	-.92	2.00	0.00	0.00
Household net worth	9.04	8.42	5.02	7.10
INCOME	10.63	8.81	10.04	13.17
Surprise Factor (not used)	0.00	.69	0.00	0.00
Processing Factor	-1.34	-1.78	-2.67	-2.60
Echo Factor	0.00	1.31	1.79	2.72
Portion explained (see (NS)	11.97	9.28	10.92	13.05
separate detail) (SA)	11.97	9.28	10.92	13.05
Mult	.40	0.00	0.00	0.00
Earned Income	9.54	7.47	9.69	11.55
Tax Rate	0.00	0.00	0.00	0.00
Unearned Income	10.81	9.94	5.07	9.62
Tax Rate	0.00	0.00	0.00	0.00
Total Deductions & Exemptions	3.91	2.44	3.36	5.02
INSURANCE	2.25	.43	-8.79	19.48
Surprise Factor	-.00	.36	0.00	0.00
Processing Factor	0.00	0.00	0.00	0.00
Echo Factor	-.00	.00	-.33	0.00
Portion explained below (NS)	2.25	.07	-8.47	19.48
Portion explained below (SA)	2.54	.20	-8.62	18.53
Mult	1.88	7.00	0.00	0.00
Corporate profits	.65	-6.35	-8.62	18.53

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JANUARY CONTROL FORECAST (T5)

ANALYSIS OF MASSACHUSETTS TAX COLLECTIONS
(Tax amounts in Millions of Dollars)

	Fiscal 1981	Fiscal 1982	Fiscal 1983	Fiscal 1984
MOTOR FUELS	237.5	273.0	267.2	275.5
Surprise Factor	.0	4.5	0.0	0.0
Processing Factor	0.0	0.0	0.0	0.0
Echo Factor	NM	NM	NM	NM
Portion explained below (NS)	237.5	268.5	267.2	275.5
Portion explained below (SA)	235.3	268.8	267.3	275.2
Mult	1.04	1.05	1.05	1.05
Tax Rate	.099	.113	.116	.124
Consumption, 72 $, gas & oil	677.6	675.5	654.0	631.0
Tax effect ratio (-.23*)	1.000	.999	1.001	1.002
*Elasticity (power diff. from 1 to which variable is raised.)				
Same variable without exponent:				
Tax effect ratio	1.000	1.003	.995	.993
PUBLIC UTILITIES	17.6	17.9	16.2	19.2
Surprise Factor	-.0	.2	0.0	0.0
Processing Factor	0.0	0.0	0.0	0.0
Echo Factor	NM	NM	NM	NM
Portion explained below (NS)	17.6	17.7	16.2	19.2
Portion explained below (SA)	17.6	17.7	16.1	19.1
Mult	.52	.55	.55	.55
Corporate profits	6196	5802	5302	6284
ROOM OCCUPANCY	22.1	23.7	26.5	31.0
Surprise Factor	.0	.3	0.0	0.0
Processing Factor	1.0	0.0	0.0	0.0
Echo Factor	NM	NM	NM	NM
Portion explained below (NS)	21.1	23.4	26.5	31.0
Portion explained below (SA)	21.2	23.4	26.7	31.2
Mult	1.22	1.28	1.28	1.28
Tax Rate	.057	.057	.057	.057
Real p. c. disp. income (.74*)	2.469	2.458	2.515	2.567
Disposable income	51106	55628	62043	69389
Employment effect (2.1*)	.87	.84	.84	.86
*Elasticity (power diff. from 1 to which variable is raised.)				
Same variable without exponent:				
Real per cap. dispos. income	3.387	3.365	3.472	3.569
Employment effect	.93	.92	.92	.93

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JANUARY CONTROL FORECAST (T5)

ANALYSIS OF MASSACHUSETTS TAX COLLECTIONS
(Per Cent Changes at Annual Rates)

	Fiscal 1981	Fiscal 1982	Fiscal 1983	Fiscal 1984
MOTOR FUELS	12.02	14.94	-2.11	3.10
Surprise Factor	0.00	1.90	0.00	0.00
Processing Factor	0.00	0.00	0.00	0.00
Echo Factor	-.00	-.00	-1.65	0.00
Portion explained below (NS)	12.02	13.03	-.46	3.10
Portion explained below (SA)	10.90	14.21	-.56	2.97
Mult	2.30	.50	0.00	0.00
Tax Rate	16.67	13.95	2.51	6.69
Consumption, 72 $, gas & oil	-6.89	-.31	-3.18	-3.53
Tax effect ratio (-.23*)	-.08	-.09	.20	.05
*Elasticity (power diff. from 1 to which variable is raised.)				
Same variable without exponent:				
Tax effect ratio	.36	.37	-.86	-.20
PUBLIC UTILITIES	-23.52	1.49	-9.63	18.84
Surprise Factor	-.00	1.31	0.00	0.00
Processing Factor	0.00	0.00	0.00	0.00
Echo Factor	-.00	0.00	-1.18	0.00
Portion explained below (NS)	-23.52	.17	-8.45	18.84
Portion explained below (SA)	-23.38	.20	-8.62	18.53
Mult	-23.87	7.00	0.00	0.00
Corporate profits	.65	-6.35	-8.62	18.53
ROOM OCCUPANCY	23.87	7.33	11.82	17.08
Surprise Factor	0.00	1.64	0.00	0.00
Processing Factor	5.61	0.00	0.00	0.00
Echo Factor	-.00	-5.09	-1.65	0.00
Portion explained below (NS)	18.26	10.78	13.48	17.08
Portion explained below (SA)	18.31	10.38	14.13	16.95
Mult	9.27	5.00	0.00	0.00
Tax Rate	0.00	0.00	0.00	0.00
Real p. c. disp. income (.74*)	-.82	-.47	2.33	2.07
Disposable income	10.90	8.85	11.53	11.84
Employment effect (2.1*)	-1.59	-2.95	-.06	2.46
*Elasticity (power diff. from 1 to which variable is raised.)				
Same variable without exponent:				
Real per cap. dispos. income	-1.10	-.64	3.16	2.80
Employment effect	-.76	-1.42	-.03	1.17

JANUARY CONTROL FORECAST (T5)

ANALYSIS OF MASSACHUSETTS TAX COLLECTIONS
(Tax amounts in Millions of Dollars)

	Fiscal 1981	Fiscal 1982	Fiscal 1983	Fiscal 1984
SALES--REGULAR	572.5	600.4	635.9	716.5
Surprise Factor	.0	9.1	0.0	0.0
Processing Factor	21.0	4.0	0.0	0.0
Echo Factor	NM	NM	NM	NM
Portion explained below (NS)	551.5	587.3	635.9	716.5
Portion explained below (SA)	551.4	587.4	636.0	716.5
Mult	1.09	1.15	1.15	1.15
Tax Rate	.050	.050	.050	.050
Consumption expend. net of m.v.	3400	3479	3749	4210
Rel. employment effect (1.03*)	1.02	1.01	1.02	1.02
Tax effect ratio (-5.5*)	.76	.76	.76	.76
*Elasticity (power diff. from 1 to which variable is raised.)				
Same variable without exponent:				
Relative employment effect	1.02	1.01	1.01	1.02
Tax effect ratio	1.05	1.05	1.05	1.05
SALES--MEALS	155.5	165.2	184.7	206.6
Surprise Factor	.0	-.6	0.0	0.0
Processing Factor	2.0	0.0	0.0	0.0
Echo Factor	NM	NM	NM	NM
Portion explained below (NS)	153.5	165.8	184.7	206.6
Portion explained below (SA)	153.7	165.9	185.0	206.8
Mult	.99	.99	.99	.99
Tax Rate	.050	.050	.050	.050
Disposable income	50432	54454	60693	67870
Tax effect ratio (-1.25*)	.90	.90	.90	.90
Tax effect ratio	1.05	1.05	1.05	1.05
SALES--MOTOR VEHICLES	132.1	138.6	165.7	186.8
Surprise Factor	.0	3.3	0.0	0.0
Processing Factor	3.0	0.0	0.0	0.0
Echo Factor	NM	NM	NM	NM
Portion explained below (NS)	129.1	135.3	165.7	186.8
Portion explained below (SA)	129.9	134.5	165.7	186.5
Mult	1.12	1.11	1.08	1.05
Tax Rate	.050	.050	.050	.050
Consumption expend., motor veh.	2501	2618	3341	3845
Tax effect ratio (-8.0*)	.68	.68	.68	.68
Tax effect ratio	1.05	1.05	1.05	1.05

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JANUARY CONTROL FORECAST (T5)

ANALYSIS OF MASSACHUSETTS TAX COLLECTIONS
(Per Cent Changes at Annual Rates)

	Fiscal 1981	Fiscal 1982	Fiscal 1983	Fiscal 1984
SALES--REGULAR	13.10	4.89	5.91	12.66
Surprise Factor	0.00	1.65	0.00	0.00
Processing Factor	4.15	.73	0.00	0.00
Echo Factor	0.00	-3.99	-2.36	0.00
Portion explained below (NS)	8.95	6.51	8.28	12.66
Portion explained below (SA)	8.95	6.53	8.28	12.65
Mult	-.69	5.00	0.00	0.00
Tax Rate	0.00	0.00	0.00	0.00
Consumption expend. net of m.v.	8.70	2.33	7.74	12.31
Rel. employment effect (1.03*)	.92	-.85	.50	.31
Tax effect ratio (-5.5*)	0.00	0.00	0.00	0.00
*Elasticity (power diff. from 1 to which variable is raised.)				
Same variable without exponent:				
Relative employment effect	.89	-.82	.48	.30
Tax effect ratio	0.00	0.00	0.00	0.00
SALES--MEALS	13.01	6.25	11.82	11.83
Surprise Factor	.00	-.37	0.00	0.00
Processing Factor	1.45	0.00	0.00	0.00
Echo Factor	0.00	-1.38	.39	0.00
Portion explained below (NS)	11.56	8.01	11.44	11.83
Portion explained below (SA)	11.51	7.97	11.46	11.83
Mult	.46	0.00	0.00	0.00
Tax Rate	0.00	0.00	0.00	0.00
Disposable income	11.00	7.97	11.46	11.83
Tax effect ratio (-1.25*)	0.00	0.00	0.00	0.00
Tax effect ratio	0.00	0.00	0.00	0.00
SALES--MOTOR VEHICLES	29.97	4.89	19.56	12.71
Surprise Factor	.00	2.53	0.00	0.00
Processing Factor	2.95	0.00	0.00	0.00
Echo Factor	-.00	-2.44	-2.89	0.00
Portion explained below (NS)	27.02	4.79	22.45	12.71
Portion explained below (SA)	26.14	3.52	23.27	12.51
Mult	21.85	-1.09	-3.35	-2.33
Tax Rate	0.00	0.00	0.00	0.00
Consumption expend., motor veh.	3.52	4.71	27.59	15.09
Tax effect ratio (-8.0*)	0.00	0.00	0.00	0.00
Tax effect ratio	0.00	0.00	0.00	0.00

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JANUARY CONTROL FORECAST (T5)

ANALYSIS OF MASSACHUSETTS INCOME TAX COLLECTIONS
(Amounts in Millions of Dollars)

	Fiscal 1981	Fiscal 1982	Fiscal 1983	Fiscal 1984
TOTAL INCOME TAX	2057.7	2239.0	2463.8	2788.3
Portion explained below (SA)	2082.7	2276.0	2524.6	2854.0
Mult	1.09	1.09	1.09	1.09
Earned Income Base	41832	44955	49312	55008
Earned Income Tax Rate	.0538	.0538	.0538	.0538
Sources of Earned Income:				
Wages & Salaries	38173	40897	44955	50159
Per Cent Taxed	97.0	97.0	97.0	97.0
Proprietors' Income	2566	2594	2846	3258
Per Cent Taxed	67.0	67.0	67.0	67.0
Pensions & Annuities	863	935	1025	1132
Per Cent Taxed	51.0	51.0	51.0	51.0
Interest (at earned rate)	3334	3882	4335	4753
Per Cent Taxed	45.0	45.0	45.0	45.0
Other	2290	2524	2734	3035
Per Cent Taxed	52.5	52.5	52.5	52.5
Unearned Income Base	2139	2351	2470	2708
Unearned Income Tax Rate	.1075	.1075	.1075	.1075
Sources of Unearned Income:				
Dividends	1916	2231	2492	2731
Per Cent Taxed	60.4	60.4	60.4	60.4
Capital Gains	598	522	389	426
Statutory Per Cent Taxed	70.0	50.0	40.0	40.0
Per Cent of Stat. C.G. Taxed	80.0	80.0	80.0	80.0
Interest (at unearned rate)	833	970	1084	1188
Per Cent Taxed	60.4	60.4	60.4	60.4
Total Deductions & Exemptions	10583	10841	11205	11768
Basic Exemption (Wage earners)	5370	5349	5438	5626
Basic Exemption (Self-employed)	328	329	335	349
Blindness	6	6	6	6
Day Care	438	438	441	446
Dependents	1132	1111	1105	1109
Elderly	273	275	278	282
Separate Filing	-12	-12	-12	-12
Non-working Spouses	418	417	413	406
Retirement Contributions	2135	2386	2625	2921
Other deductions	195	211	232	258
Other Exemptions	318	344	379	421

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JANUARY CONTROL FORECAST (T5)

ANALYSIS OF MASSACHUSETTS INCOME TAX COLLECTIONS
(Per Cent Changes at Annual Rates)

	Fiscal 1981	Fiscal 1982	Fiscal 1983	Fiscal 1984
TOTAL INCOME TAX	10.63	8.81	10.04	13.17
Portion explained below (SA)	11.97	9.28	10.92	13.05
Mult	.40	0.00	0.00	0.00
Earned Income Base	9.54	7.47	9.69	11.55
Earned Income Tax Rate	0.00	0.00	0.00	0.00
Sources of Earned Income:				
Wages & Salaries	9.39	7.14	9.92	11.58
Per Cent Taxed	0.00	0.00	0.00	0.00
Proprietors' Income	5.72	1.11	9.74	14.45
Per Cent Taxed	0.00	0.00	0.00	0.00
Pensions & Annuities	8.52	8.40	9.57	10.46
Per Cent Taxed	0.00	0.00	0.00	0.00
Interest (at earned rate)	17.01	16.45	11.68	9.62
Per Cent Taxed	0.00	0.00	0.00	0.00
Other	11.48	10.21	8.35	10.99
Per Cent Taxed	0.00	0.00	0.00	0.00
Unearned Income Base	10.81	9.94	5.07	9.62
Unearned Income Tax Rate	0.00	0.00	0.00	0.00
Sources of Unearned Income:				
Dividends	17.01	16.45	11.68	9.62
Per Cent Taxed	0.00	0.00	0.00	0.00
Capital Gains	-6.40	-12.66	-25.54	9.62
Statutory Per Cent Taxed	-22.22	-28.57	-20.00	0.00
Per Cent of Stat. C.G. Taxed	0.00	0.00	0.00	0.00
Interest (at unearned rate)	17.01	16.45	11.68	9.62
Per Cent Taxed	0.00	0.00	0.00	0.00
Total Deductions & Exemptions	3.91	2.44	3.36	5.02
Basic Exemption (Wage earners)	.82	-.39	1.67	3.46
Basic Exemption (Self-employed)	-.02	.35	1.99	4.10
Blindness	-.17	.05	.43	.61
Day Care	.27	-.09	.72	1.12
Dependents	-2.05	-1.80	-.56	.39
Elderly	.97	.80	1.15	1.43
Separate Filing	NM	NM	NM	NM
Non-working Spouses	5.75	-.36	-.86	-1.90
Retirement Contributions	15.12	11.76	10.05	11.26
Other deductions	11.25	8.10	10.21	10.93
Other Exemptions	11.25	8.10	10.21	10.93

82/01/14

JANUARY CONTROL FORECAST (T5)

SUMMARY REPORT
MASSACHUSETTS ECONOMIC POLICY ANALYSIS MODEL
(Seasonally Adjusted Annual Rates)

	Fiscal 1981	Fiscal 1982	Fiscal 1983	Fiscal 1984
Employment--Nonag. W. & S.	2659	2648	2693	2787
% Change	.9	-.4	1.7	3.5
Manufacturing	668	665	681	716
% Change	-1.5	-.4	2.5	5.1
Non-Manufacturing	1991	1984	2012	2072
% Change	1.7	-.4	1.4	3.0
Unemployment Rate	5.7	7.5	7.3	6.0
Employment Rate Index*	105.5	104.2	105.4	108.4
% Change	-.1	-1.2	1.1	2.8
Relative to U.S. Index*	100.4	99.6	100.6	101.4
Rate of Wage Change	9.3	8.0	7.7	7.5
Wage Index Rel. to U.S.*	93.9	93.9	93.7	93.9
Avg. Weekly Hours in Mfg.	40.0	40.1	40.4	40.5
Rate of Price Inflation	12.0	8.6	7.2	8.1
Relative to U.S. CPI*	96.6	95.9	95.7	95.9
Personal Income (mil$)	60421	65314	71980	79848
% Change	11.3	8.1	10.2	10.9
Disposable Income (mil$)	50432	54454	60693	67870
% Change	11.0	8.0	11.5	11.8
Real Per Cap. D.I. Index*	105.9	105.2	108.9	112.0
Relative to U.S.*	104.6	104.6	105.3	105.4
Rel. Business Cost Index*	96.5	96.5	96.3	96.5
Manufacturing*	95.6	94.9	94.8	94.9
Non-Manufacturing*	97.0	97.2	97.0	97.2

*Indexes equal 100 in calendar 1973.

NOTES FOR MRAF JANUARY 1982

Tax forecast. For a full documentation please request the MRAF booklet.

The forecast with the Massachusetts Revenue Analysis and Forecasting (MRAF) model is made using a documented automatic procedure except for the explicit introduction of judgmental information. For this forecast the judgment adjustments for each tax affected are listed alphabetically along with an appraisal of the effect of the adjustment.

ALCOHOLIC BEVERAGES

No adjustments.

BANKS (COMMERCIAL)

Seven million dollars assumed to be special collections in the third quarter of 1980 (80:3). The mult. was increased, from .81 to 1.00 for fiscal 1982 on the premise that audits would increase future receipts and on the basis of experience in 81:3 and 81:4.

BANKS (SAVINGS)

No adjustments.

CIGARETTES

Three million dollars added for special processing in 1981:2; six million added in 1981:3 and six million removed in 1982:2. This reflects processing changes that had the effect of changing the past pattern of receipts of 1 2/3 months in June, 1/3 month in July to 2 months in June 1981, 1 month in July 1981 and 1 month in June 1982. The mult. is increased by 1 percent in fiscal 1982 based on 81:3 and 81:4 collections.

CORPORATIONS

Additive adjustments of -$10 and -5 million were made for 81:1 and 81:2 respectively to allow for the effect of changing the law so that corporations can deduct refunds from current estimated payments rather than wait for a refund check from the state. The mult. was increased by three percent based on collections in the first two quarters of fiscal 1982.

DEEDS

No adjustments.

ESTATE AND INHERITANCE

Mult. increased by two percent on the basis of above expected collections in 81:3 and 81:4.

INCOME

Added 25 million dollars to 1981:3 and subtracted -25 million from 1981:2 to reflect staffing problems in June 1981 that led to more spillover into July than usual.

Reductions of -$20, -$42 million for 82:1 and 81:2 (and -$20 and $41 for 83:1 and 83:2 and -$22, and -$44 for 84:1 and 84:2) were made to capture the effect of deductions of rental payments allowed under Proposition 2-1/2. The effect is to reduce predicted collections by $62, $61, and $66 million in fiscal 82, 83, and 84 respectively.

INSURANCE

The mult. was increased by seven percent based on first half of fiscal 1982 collections.

MOTOR FUELS

Three million dollars in special processing is assumed to be subtracted from 81:1 and added 81:2 because of a larger than usual spillover from the first to the second quarter. The mult. is up 1/2 of 1% based on collections in the first

half of fiscal 1982.

PUBLIC UTILITIES

The mult. is increased 7% on the basis of the unusually low default mult. and 81:4 collections.

ROOM OCCUPANCY

In 81:1, one million dollars of the reported collections assumed to be due to a speedup in collections. The mult. is increased 5% on the basis of 81:3 and 81:4 collections.

SALES (REGULAR)

In 81:1, $17 million, and in 81:2, $4 million is assumed to be due to the collection speed up. Four million added to 81:3 for unusual spillover. The mult. is increased by 5% based on collections in the first half of 1982.

SALES (MEALS)

In 81:1 and 81:2, one million dollars is assumed to be due to the collections speed up.

SALES (MOTOR VEHICLES)

Three million dollars added to special processing in 81:2 for collections speed up.

The mult. was reduced by about two percent for calendar 1982 and by an additiona five percent for 1983 and subsequent years to phase out the spurt in auto buying induced by the lower personal property taxes mandated by Proposition 2 1/2.

MASS. UM4.2: M38/982-4

The April 1982

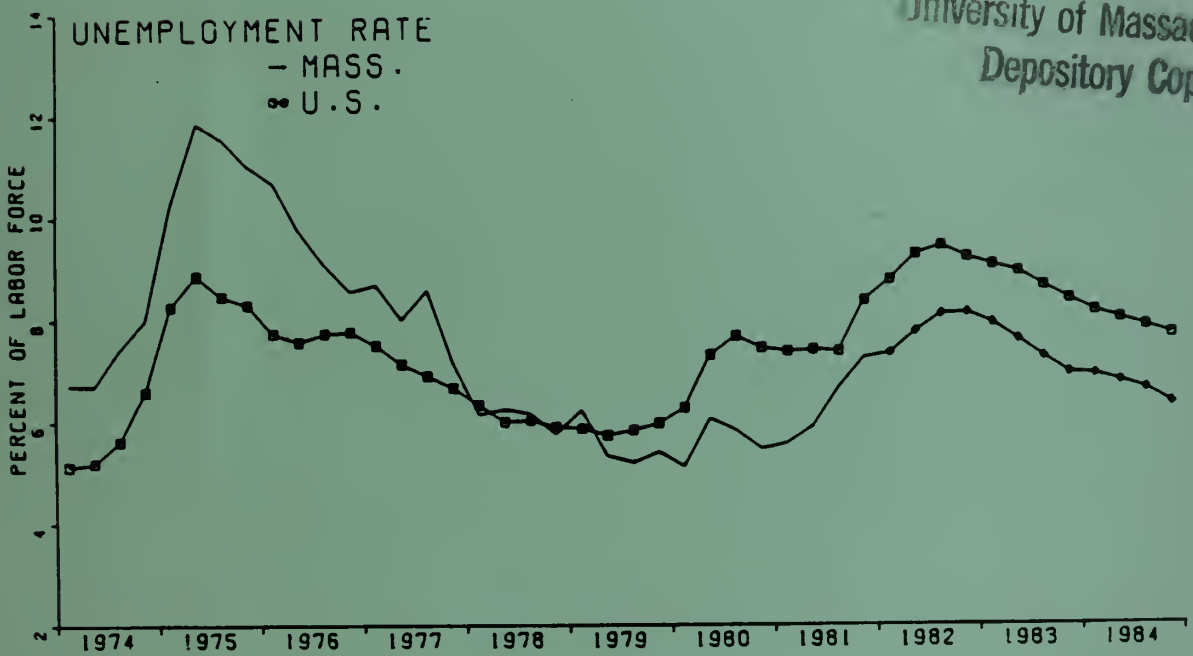
Massachusetts Economic Policy Analysis (MEPA)

Model Forecast

by

George Treyz and Roy Williams*

GOVERNMENT DOCUMENTS COLLECTION
1983
University of Massachusetts Depository Copy



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THE APRIL 1982

MASSACHUSETTS ECONOMIC POLICY ANALYSIS (MEPA)

AND

REVENUE ANALYSIS AND FORECASTING (MRAF)

MODEL FORECASTS

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Employment in Massachusetts in 1982 is projected to average about the same as it did in 1981. Revised figures released too late to be incorporated in this forecast will show that there was no employment growth in Massachusetts in 1981 either. The expanding labor force together with level employment performance explains the Massachusetts unemployment rate increase of two percentage points from 1980 through 1982. In line with the U.S. forecast, employment is projected to decrease moderately through the third quarter of 1982 before expanding at a sluggish rate in 1983 and 1984. Thus, the unemployment rate can be expected to increase still further in 1982 before stabilizing and beginning to turn down in 1983 and 1984.

Despite this unsatisfactory unemployment performance in Massachusetts our rate has stayed below the national rate by about one or two percentage points. We predict that it will remain below the national rate, but that the average difference will diminish slightly. Substantial monthly deviations in that spread can be expected, because the reported unemployment rate in Massachusetts is based on a very small sample.

Why has our unemployment rate remained lower than the U.S. and why is it forecast to remain lower? There are several reasons: first, we have a less than proportional representation in the hard hit construction and automobile industries. Even as the recovery progresses the construction industry may remain a major victim of continued high real interest rates. Second, the underlying growth in our high technology industries has benefitted us to date and will probably remain a positive if somewhat diminished factor.

Third, our relative production costs have improved over the last decade. This will continue to be an underlying positive factor. Finally, the Massachusetts population continues to grow less rapidly than that in the rest of the United States. This means that our labor force will grow less rapidly and that the growth in employment required to avoid higher unemployment rates is less than it is in states with a faster growing population.

The news on the inflation front is very good with the Massachusetts rate this year projected to be in the 6 percent range compared with a rate of over 12 percent in 1980. This drop in the inflation rate combined with the federal income tax cuts leads to an increase in the Massachusetts real per capita disposable index to a level of 110 in 1982 and 113 in 1983 compared with a value of less than 106 in 1981. This projected gain from 1981 through 1983 is as great as the entire gain from 1973 through 1981. It is paradoxical that the gain from 1981 to 1983 comes at the same time the unemployment rate is projected to increase from 6.3 to 7.3 percent.

Massachusetts tax revenues continue to come in somewhat faster than other economic statistics would lead us to expect. Despite the relatively good collections at present, we are still projecting revenues for fiscal 1983 at levels lower than those contained in the currently proposed state budget.

APRIL CONTROL FORECAST (T5)

SUMMARY REPORT
MASSACHUSETTS ECONOMIC POLICY ANALYSIS MODEL
(Units as Indicated)

	1980	1981	1982	1983	1984
Employment--Nonag. W. & S.	2648	2664	2656	2695	2756
% Change	1.7	.6	-.3	1.5	2.3
Manufacturing	673	668	643	652	667
% Change	.2	-.7	-3.8	1.4	2.4
Non-Manufacturing	1975	1996	2013	2043	2089
% Change	2.3	1.1	.9	1.5	2.2
Unemployment Rate	5.6	6.3	7.8	7.4	6.7
Employment Rate Index*	106.2	105.6	104.2	105.2	107.1
% Change	.8	-.6	-1.3	.9	1.8
Relative to U.S. Index*	100.8	100.5	101.4	101.7	101.7
Rate of Wage Change	8.5	8.9	8.0	7.1	7.6
Wage Index Rel. to U.S.*	94.0	93.7	94.0	94.2	94.5
Avg. Weekly Hours in Mfg.	39.8	40.1	39.9	40.3	40.4
Rate of Price Inflation	12.7	11.1	5.8	7.1	7.4
Relative to U.S. CPI*	96.0	96.7	96.2	96.4	96.9
Personal Income (mil$)	57243	63563	69470	76240	83851
% Change	11.5	11.0	9.3	9.7	10.0
Disposable Income (mil$)	47895	52922	58439	64647	71174
% Change	11.4	10.5	10.4	10.6	10.1
Real Per Cap. D.I. Index*	106.3	105.8	110.1	113.3	115.6
Relative to U.S.*	104.7	104.8	107.8	107.7	107.2
Rel. Business Cost Index*	96.4	96.5	96.9	97.1	97.4
Manufacturing*	95.9	95.1	95.0	95.1	95.4
Non-Manufacturing*	96.6	97.2	97.8	98.0	98.3

*Indexes equal 100 in calendar 1973.

APRIL CONTROL FORECAST (T5)

EMPLOYMENT IN MASSACHUSETTS--INDUSTRY DETAIL
(Thousands of People)

	1980	1981	1982	1983	1984
Manufacturing	673.1	668.3	642.9	651.8	667.5
As % of U.S.	3.32	3.30	3.36	3.35	3.33
Durables	409.7	410.1	395.2	402.6	416.0
Lumber, Furntr. (24/25)	13.4	13.3	11.9	12.2	12.3
Stone, Clay, etc. (32)	13.1	12.5	11.5	11.8	12.0
Primary Metals (33)	17.3	16.9	16.1	16.5	16.9
Fabricated Metals (34)	54.1	52.9	50.1	51.0	53.5
Non-elec. Machin. (35)	109.6	110.0	107.2	105.6	109.9
Elec. Equipment (36)	109.4	111.7	110.4	116.0	119.9
Transport. Equip. (37)	35.4	33.4	30.5	31.8	32.8
Instruments (38)	57.6	59.3	57.6	57.8	58.7
Nondurables	263.4	258.3	247.6	249.1	251.5
Food (20)	27.4	26.4	26.1	25.7	25.4
Textiles (22)	25.4	24.5	22.0	22.0	22.2
Apparel (23)	39.8	38.7	36.8	35.6	35.6
Paper (26)	28.9	28.6	27.7	28.1	28.3
Printing (27)	43.7	43.7	44.0	43.9	43.6
Chemicals (28)	18.3	17.6	16.8	17.0	17.1
Rubber (30)	31.0	30.6	29.3	31.0	32.9
Leather (31)	20.8	20.1	18.6	18.8	19.1
Other Nondurables (39)	28.2	28.0	26.4	26.8	27.2
Nonmanufacturing	1975.2	1996.0	2013.1	2043.1	2089.0
Contract Construction	73.6	69.7	73.4	74.8	80.8
Transport & Utilities	122.3	124.9	123.8	122.2	121.5
Wholesale & Retail Trade	571.3	581.9	584.9	596.1	607.9
Finance, Insurance, etc.	159.0	164.2	167.1	169.4	173.1
Services & Miscellaneous	638.5	667.5	692.0	711.8	734.3
Government	410.5	387.8	372.0	368.9	371.3
Federal	58.3	57.0	55.5	55.9	56.7
State	97.8	95.7	89.3	87.4	87.3
Local	254.4	235.0	227.3	225.6	227.3
Nonag. Wage & Sal. Employ.*	2648.3	2664.4	2656.0	2694.8	2756.4
As % of U.S.	2.92	2.91	2.93	2.93	2.92

*EMPLOYMENT REVIEW Concept.

APRIL CONTROL FORECAST (T5)

MASSACHUSETTS EMPLOYMENT, POPULATION, AND LABOR FORCE
(Thousands of People)

	1980	1981	1982	1983	1984
Nonag. Wage & Sal. Employ.*	2648.3	2664.4	2656.0	2694.8	2756.4
Plus: All Other Nonag.	163.6	163.6	165.2	168.5	173.0
Plus: Agriculture	27.3	25.7	25.6	25.7	25.7
Total Mass. Jobs	2839.2	2853.7	2846.8	2889.1	2955.1
Less: Adjustments**	125.6	81.4	97.8	97.8	97.8
Total Employment***	2713.7	2772.3	2749.0	2791.3	2857.3
As % of U.S.	2.73	2.76	2.76	2.73	2.71
Mass. Population	5737.0	5731.1	5746.2	5773.3	5799.8
As % of U.S.	2.58	2.55	2.54	2.52	2.51
Mass. Popuiln. 16 and Over	4386.6	4437.7	4482.8	4507.0	4528.1
Mass. Employment Rate****	60.4	60.0	59.2	59.8	60.9
Indexed to 1973	106.2	105.6	104.2	105.2	107.1
U.S. Employment Rate	53.7	53.6	52.4	52.8	53.7
Mass. Index Rel. To U.S.	100.8	100.5	101.4	101.7	101.7
Labor Force	2875.2	2960.4	2982.3	3015.1	3061.4
Participation Rate	65.5	66.7	66.5	66.9	67.6
U.S. Participation Rate	63.5	63.7	63.6	64.2	64.9
Number of Unemployed	161.5	188.1	233.3	223.8	204.1
Unemployment Rate	5.6	6.3	7.8	7.4	6.7
U.S. Unemployment Rate	7.2	7.6	9.2	8.8	7.9

*EMPLOYMENT REVIEW concept.
**Adjustments for double counting and place of residence.
***MASSACHUSETTS TRENDS concept.
****Total employment divided by the population sixteen and over.

APRIL CONTROL FORECAST (T5)

MANUFACTURING EMPLOYMENT IN MASSACHUSETTS
(Thousands of People)

	1980	1981	1982	1983	1984
Manufacturing	673.1	668.3	642.9	651.8	667.5
As % of U.S.	3.32	3.30	3.36	3.35	3.33
Durables	409.7	410.1	395.2	402.6	416.0
Lumber, Furniture (24/25)	13.4	13.3	11.9	12.2	12.3
Stone, Clay, Glass (32)	13.1	12.5	11.5	11.8	12.0
Primary Metals (33)	17.3	16.9	16.1	16.5	16.9
Fabricated Metals (34)	54.1	52.9	50.1	51.0	53.5
Non-elec. Machin. (35)	109.6	110.0	107.2	105.6	109.9
Engines & Turbines (351)	6.5	6.5	6.3	6.6	7.3
Metalworking Mach. (354)	17.7	16.8	15.2	15.3	16.2
Spec. Industry M. (355)	16.8	15.6	14.1	13.6	14.0
Gen. Industrial M. (356)	9.6	9.3	9.4	9.4	9.9
Off. & Comput. M. (357)	46.4	49.4	50.3	49.1	50.4
Rest of Industry	12.5	12.4	11.8	11.6	12.2
Elec. Equipment (36)	109.4	111.7	110.4	116.0	119.9
Electronic Compon. (367)	47.3	48.5	50.2	55.3	57.5
Rest of Industry	62.1	63.1	60.2	60.7	62.4
Transport. Equip. (37)	35.4	33.4	30.5	31.8	32.8
Mot. Vehicles & P. (371)	6.3	5.1	3.9	4.5	4.9
Aircraft & Parts (372)	10.6	10.7	9.9	9.6	9.7
Rest of Industry	18.5	17.6	16.8	17.6	18.3
Instruments (38)	57.6	59.3	57.6	57.8	58.7
Meas. & Control (382)	19.1	20.6	21.0	21.3	21.8
Rest of Industry	38.5	38.8	36.6	36.5	36.9
Nondurables	263.4	258.3	247.6	249.1	251.5
Food (20)	27.4	26.4	26.1	25.7	25.4
Textiles (22)	25.4	24.5	22.0	22.0	22.2
Apparel (23)	39.8	38.7	36.8	35.6	35.6
Paper (26)	28.9	28.6	27.7	28.1	28.3
Printing (27)	43.7	43.7	44.0	43.9	43.6
Chemicals (28)	18.3	17.6	16.8	17.0	17.1
Synthet. Materials (282)	5.7	5.3	5.1	5.5	5.7
Rest of Industry	12.6	12.3	11.7	11.5	11.4
Rubber (30)	31.0	30.6	29.3	31.0	32.9
Leather (31)	20.8	20.1	18.6	18.8	19.1
Other Nondurables (39)	28.2	28.0	26.4	26.8	27.2

APRIL CONTROL FORECAST (T5)

MANUFACTURING EMPLOYMENT IN MASSACHUSETTS
(AS A PER CENT OF U.S. EMPLOYMENT)

	1980	1981	1982	1983	1984
Manufacturing	3.32	3.30	3.36	3.35	3.33
Durables	3.36	3.38	3.49	3.46	3.43
Lumber (24)	.76	.80	.83	.82	.80
Furniture (25)	1.73	1.65	1.54	1.52	1.50
Stone, Clay, Glass (32)	1.97	1.93	1.95	1.93	1.88
Primary Metals (33)	1.51	1.50	1.59	1.59	1.57
Fabricated Metals (34)	3.36	3.34	3.43	3.43	3.41
Non-elec. Machin. (35)	4.39	4.38	4.53	4.52	4.46
Engines & Turbines (351)	4.81	4.91	5.11	5.14	5.15
Metalworking Mach. (354)	4.76	4.65	4.58	4.53	4.47
Spec. Industry M. (355)	8.05	7.71	7.71	7.59	7.48
Gen. Industrial M. (356)	3.00	2.96	2.77	2.83	2.84
Off. & Comput. M. (357)	10.80	10.88	11.14	11.10	10.95
Rest of Industry Group	1.22	1.19	1.26	1.26	1.26
Elec. Equipment (36)	5.20	5.23	5.40	5.54	5.50
Electronic Compon. (367)	8.47	8.43	8.99	9.05	8.97
Rest of Industry Group	4.02	4.05	4.05	4.09	4.06
Transport. Equip. (37)	1.89	1.81	1.78	1.72	1.69
Mot. Vehicles & P. (371)	.83	.70	.55	.55	.55
Aircraft & Parts (372)	1.62	1.62	1.65	1.64	1.64
Rest of Industry Group	4.02	3.82	4.03	3.92	3.83
Instruments (38)	8.13	8.26	8.27	8.29	8.23
Meas. & Control (382)	7.89	8.34	8.82	8.88	8.85
Rest of Industry Group	8.25	8.22	7.98	7.98	7.90
Nondurables	3.24	3.18	3.17	3.18	3.18
Food (20)	1.60	1.56	1.57	1.55	1.53
Textiles (22)	2.98	2.92	2.86	2.85	2.84
Apparel (23)	3.15	3.08	3.18	3.18	3.16
Paper (26)	4.16	4.14	4.16	4.14	4.10
Printing (27)	3.47	3.39	3.38	3.35	3.31
Chemicals (28)	1.65	1.59	1.55	1.57	1.57
Synthet. Materials (282)	2.76	2.66	2.73	2.75	2.73
Rest of Industry Group	1.39	1.36	1.31	1.31	1.29
Rubber (30)	4.24	4.12	4.22	4.33	4.41
Leather (31)	8.93	8.67	8.68	8.61	8.50
Other Nondurables (39)	6.74	6.75	6.77	6.86	6.88

APRIL CONTROL FORECAST (T5)

PERSONAL INCOME IN MASSACHUSETTS
(Millions of Dollars)

	1980	1981	1982	1983	1984
INCOME BY PLACE OF WORK					
Wage & Sal. Disbursements	36356	40026	43178	47002	51758
Other Labor Income	3782	4255	4789	5456	6292
Proprietors' Income	2480	2605	2743	3102	3504
Total Labor & Propr. Inc.	42618	46886	50709	55559	61554
Breakdown by Industry:					
Farm	97	99	98	109	119
Manufacturing	12278	13529	14229	15676	17455
Durables	8618	9581	10099	11136	12483
Nondurables	3660	3948	4130	4539	4972
Construction	1662	1764	2049	2271	2645
Trade	6890	7737	8359	9173	10115
Finance,Ins.,& R.E.	2849	3169	3483	3811	4220
Transportation & Util.	2870	3218	3504	3758	4076
Services & Misc.	10037	11281	12548	13902	15499
Government	5935	6089	6439	6861	7425
Federal	1426	1541	1618	1742	1874
State & Local	4509	4548	4821	5119	5552
DERIVATION OF PERSONAL INCOME BY PLACE OF RESIDENCE					
Total L&P, Place of Work	42618	46886	50709	55559	61554
Less: Soc. Insr. Contr.	2172	2581	2851	3096	3400
Plus: Residence Adjmt.	-282	-321	-351	-379	-407
Plus: Div.,Int., & Rent	8602	9999	11216	12533	13705
Plus: Transfer Payments	8477	9580	10746	11623	12399
State Unempl. Benefits	339	416	559	574	563
All Other Transfers	8138	9164	10187	11049	11836
Personal Inc., Pl of Res.	57243	63563	69470	76240	83851
Less: Fed. Income Tax	6717	7701	7828	8062	8755
Less: Mass. Income Tax	1964	2184	2379	2634	2938
Less: Other Mass. Taxes	667	756	824	898	985
Dispos. P.I., Pl of Res.	47895	52922	58439	64647	71174
Boston CPI, 1967 = 100	240.0	266.6	282.0	301.9	324.3
Real D.P.I., '67 Dollars	19962	19851	20717	21406	21944
Real D.P.I., Per Capita	3.479	3.464	3.605	3.708	3.783
% Change	-1.0	-.4	4.1	2.8	2.0

APRIL CONTROL FORECAST (T5)

SUMMARY REPORT
MASSACHUSETTS EARNED FAMILY INCOME DISTRIBUTION MODEL
OF ANNUALIZED WORKING-PERIOD EARNINGS

	1980	1981	1982	1983	1984
Per Cent of Families with Female Head	15.96	16.45	16.94	17.43	17.92
Per Cent of Named Group without Earnings					
All Families	8.84	8.93	9.28	9.39	9.02
Male Headed Fams.	4.78	4.97	5.27	5.31	5.10
Female Headed Fams.	30.20	29.03	28.95	28.69	27.00
No. of Families (000)	1307.4	1311.9	1318.3	1326.5	1333.4
With Earnings	1191.9	1194.8	1196.0	1202.0	1213.2
Without Earnings	115.5	117.2	122.4	124.5	120.3
Average Earnings of All Families					
In Nominal Dollars	24399	26750	28407	30322	33128
In 1972 Dollars	12928	12755	12944	12996	13211
Average Earnings of Those with Earnings					
In Nominal Dollars	26765	29374	31315	33462	36411
In 1972 Dollars	14181	14005	14268	14342	14521
Total Earnings (mil $)	31901	35095	37451	40223	44175
As % of WSD	87.75	87.68	87.71	87.71	87.42
Displaced Log-Normal Parameters (Families with Earnings)					
Gini Coefficient	.3224	.3238	.3281	.3299	.3301
Displacement	.5047	.5515	.6271	.6377	.5819
Standard Deviation	.3836	.3736	.3604	.3601	.3733
Mean -- Nom. $ Dist.	10.53	10.66	10.77	10.85	10.89
Mean -- 1972 $ Dist.	9.89	9.92	9.99	10.00	9.97
EXPLANATORY VARIABLES					
Population 18 thru 64	3511.8	3523.8	3541.0	3562.9	3581.6
Tot. Nonag. Employment	2648.3	2664.4	2656.0	2694.8	2756.4
M & R Emp. (% of Tot.)	30.03	29.77	29.02	28.70	28.67
Female Employment	1096.3	1114.3	1120.8	1131.0	1159.7
As % of Popul. 18-64	31.22	31.62	31.65	31.74	32.38
No. Employed per Fam.	2.222	2.230	2.226	2.226	2.261
Unemployment Rate	5.6	6.3	7.8	7.4	6.7
Wage/Sal Disbursements	36356	40026	43178	47002	51758
WSD per Employee	13.729	15.024	16.037	17.134	18.418
Wage Acceleration	NA	NA	NA	NA	NA
C.P.I. (Boston)	240.0	266.6	282.0	301.9	324.3

APRIL CONTROL FORECAST (T5)

PER CENT OF MASSACHUSETTS FAMILIES
WITH EARNED FAMILY INCOME IN GIVEN NOMINAL DOLLAR CLASSES
(MEFID MODEL OF ANNUALIZED WORKING-PERIOD EARNINGS)

EARNINGS CLASS: (Nominal Dollars)	1980	1981	1982	1983	1984
$0	8.84	8.93	9.28	9.39	9.02
1 and over	91.16	91.07	90.72	90.61	90.98
$1 - 999	.61	.70	.90	.94	.81
1000 - 1999	.37	.35	.37	.35	.30
2000 - 2999	.51	.46	.47	.43	.37
3000 - 3999	.67	.59	.58	.53	.45
4000 - 4999	.86	.74	.69	.63	.54
5000 - 5999	1.05	.89	.82	.74	.63
6000 - 6999	1.25	1.05	.95	.85	.73
7000 - 7999	1.46	1.21	1.08	.96	.83
8000 - 8999	1.66	1.37	1.22	1.08	.93
9000 - 9999	1.85	1.53	1.35	1.19	1.03
10000 - 10999	2.02	1.68	1.47	1.31	1.13
11000 - 11999	2.19	1.82	1.60	1.41	1.23
12000 - 12999	2.33	1.95	1.71	1.52	1.32
13000 - 13999	2.45	2.07	1.81	1.61	1.41
14000 - 14999	2.55	2.17	1.91	1.70	1.50
15000 - 19999	13.47	11.83	10.54	9.52	8.50
20000 - 24999	13.04	12.12	11.17	10.35	9.51
25000 - 34999	20.12	20.39	19.95	19.37	18.65
35000 - 49999	15.06	17.41	18.74	19.72	20.61
50000 and over	7.66	10.73	13.38	16.38	20.51
20000 and over	55.88	60.65	63.25	65.83	69.28
$0 - 1000	9.45	9.63	10.19	10.33	9.83
0 - 2000	9.82	9.98	10.55	10.68	10.13
0 - 4000	11.01	11.04	11.60	11.64	10.95
0 - 6000	12.92	12.66	13.11	13.01	12.12
0 - 9000	17.28	16.29	16.36	15.90	14.60
0 - 12000	23.34	21.33	20.78	19.82	17.99
0 - 15000	30.66	27.52	26.21	24.65	22.22
0 - 20000	44.12	39.35	36.75	34.17	30.72
0 - 25000	57.16	51.47	47.92	44.52	40.23
0 - 35000	77.28	71.86	67.87	63.89	58.88
0 - 50000	92.34	89.27	86.62	83.62	79.49

APRIL CONTROL FORECAST (T5)

SUMMARY REPORT
MASSACHUSETTS ECONOMIC POLICY ANALYSIS MODEL
(Seasonally Adjusted Annual Rates, Units as Indicated)

	1981:1	1981:2	1981:3	1981:4	1982:1	1982:2
Employment--Nonag. W. & S.	2684	2676	2629	2669	2674	2657
% Change	4.0	-1.2	-6.9	6.3	.8	-2.6
Manufacturing	669	673	664	668	657	643
% Change	1.9	2.6	-5.6	2.4	-6.0	-8.4
Non-Manufacturing	2015	2003	1965	2001	2017	2014
% Change	4.7	-2.4	-7.3	7.6	3.2	-.6
Unemployment Rate	5.6	5.9	6.6	7.2	7.3	7.8
Employment Rate Index*	106.8	106.2	104.0	105.3	105.1	104.3
% Change	2.8	-2.2	-8.0	5.0	-.7	-3.1
Relative to U.S. Index*	101.5	100.9	98.7	100.7	101.5	101.5
Rate of Wage Change	7.4	10.5	5.8	8.2	8.4	7.7
Wage Index Rel. to U.S.*	93.6	94.0	93.5	93.7	93.9	94.0
Avg. Weekly Hours in Mfg.	40.2	40.3	40.0	40.1	40.0	39.9
Rate of Price Inflation	17.1	7.1	8.9	6.1	4.1	4.8
Relative to U.S. CPI*	97.2	97.1	96.4	96.0	96.1	96.2
Personal Income (mil$)	61398	62783	64146	65923	67498	68539
% Change	13.8	9.3	9.0	11.6	9.9	6.3
Disposable Income (mil$)	51178	52221	53284	55005	56495	57304
% Change	13.1	8.4	8.4	13.6	11.3	5.9
Real Per Cap. D.I. Index*	105.2	105.5	105.4	107.1	108.9	109.0
Relative to U.S.*	104.0	104.5	104.6	106.2	108.0	107.8
Rel. Business Cost Index*	96.2	96.6	96.6	96.8	96.8	96.9
Manufacturing*	95.5	95.2	94.9	94.8	94.9	95.0
Non-Manufacturing*	96.5	97.1	97.4	97.7	97.7	97.7

*Indexes equal 100 in calendar 1973.

APRIL CONTROL FORECAST (T5)

SUMMARY REPORT
MASSACHUSETTS ECONOMIC POLICY ANALYSIS MODEL
(Seasonally Adjusted Annual Rates, Units as Indicated)

	1982:3	1982:4	1983:1	1983:2	1983:3	1983:4
Employment--Nonag. W. & S.	2644	2649	2664	2685	2707	2724
% Change	-1.9	.8	2.3	3.1	3.4	2.4
Manufacturing	635	636	642	649	656	661
% Change	-4.7	.4	3.7	4.5	4.2	3.0
Non-Manufacturing	2009	2013	2022	2036	2052	2063
% Change	-1.0	.9	1.8	2.7	3.2	2.3
Unemployment Rate	8.1	8.1	7.9	7.6	7.3	6.9
Employment Rate Index*	103.7	103.7	104.2	104.8	105.6	106.1
% Change	-2.4	.3	1.7	2.5	2.8	1.9
Relative to U.S. Index*	101.3	101.3	101.4	101.6	101.8	101.9
Rate of Wage Change	8.5	8.1	5.3	6.9	7.9	7.7
Wage Index Rel. to U.S.*	94.0	94.0	94.0	94.2	94.3	94.4
Avg. Weekly Hours in Mfg.	39.9	40.0	40.1	40.3	40.3	40.4
Rate of Price Inflation	5.9	7.3	7.5	7.1	7.5	7.9
Relative to U.S. CPI*	96.2	96.3	96.3	96.4	96.4	96.6
Personal Income (mil$)	70047	71795	73405	75099	77285	79173
% Change	9.1	10.4	9.3	9.6	12.2	10.1
Disposable Income (mil$)	59307	60649	62032	63342	65877	67335
% Change	14.7	9.4	9.4	8.7	17.0	9.2
Real Per Cap. D.I. Index*	111.1	111.5	111.9	112.2	114.4	114.6
Relative to U.S.*	107.7	107.6	107.6	107.7	107.9	107.7
Rel. Business Cost Index*	96.9	96.9	96.9	97.0	97.2	97.3
Manufacturing*	95.0	95.0	95.0	95.1	95.2	95.3
Non-Manufacturing*	97.8	97.8	97.8	97.9	98.1	98.2

*Indexes equal 100 in calendar 1973.

APRIL CONTROL FORECAST (T5)

EMPLOYMENT IN MASSACHUSETTS--INDUSTRY DETAIL
(Thousands of People, Seasonally Adjusted)

	1981:3	1981:4	1982:1	1982:2	1982:3	1982:4
Manufacturing	663.6	667.6	657.3	643.0	635.3	635.9
As % of U.S.	3.24	3.34	3.37	3.36	3.35	3.34
Durables	407.0	411.2	405.1	395.7	389.9	390.3
Lumber, Furntr. (24/25)	12.7	12.8	12.1	11.8	11.7	11.8
Stone, Clay, etc. (32)	12.2	12.5	11.9	11.5	11.3	11.3
Primary Metals (33)	16.9	16.8	16.6	15.9	15.8	16.0
Fabricated Metals (34)	52.8	52.9	51.5	49.8	49.4	49.7
Non-elec. Machin. (35)	109.5	110.7	110.8	108.5	105.4	104.0
Elec. Equipment (36)	112.2	112.3	111.8	110.3	109.1	110.1
Transport. Equip. (37)	31.0	34.1	31.7	30.3	29.9	30.2
Instruments (38)	59.7	59.1	58.5	57.7	57.2	57.0
Nondurables	256.6	256.4	252.3	247.3	245.4	245.6
Food (20)	26.1	26.1	26.4	26.1	25.9	25.8
Textiles (22)	24.5	23.6	22.6	21.9	21.7	21.8
Apparel (23)	36.6	38.5	38.3	37.0	36.2	35.8
Paper (26)	28.4	28.8	28.1	27.6	27.5	27.6
Printing (27)	43.7	44.2	44.2	44.1	44.0	44.0
Chemicals (28)	17.5	17.0	16.9	16.7	16.7	16.8
Rubber (30)	30.9	30.1	29.6	28.9	29.1	29.6
Leather (31)	20.2	20.1	19.1	18.5	18.3	18.3
Other Nondurables (39)	28.8	28.0	27.0	26.3	26.0	26.1
Nonmanufacturing	1965.0	2001.3	2017.0	2013.8	2008.7	2013.1
Contract Construction	64.1	69.2	76.0	74.1	71.9	71.6
Transport & Utilities	123.7	125.0	125.4	124.1	123.1	122.6
Wholesale & Retail Trade	584.6	581.3	583.8	584.2	584.9	586.7
Finance, Insurance, etc.	166.9	164.5	167.2	167.0	166.9	167.2
Services & Miscellaneous	663.8	680.5	689.7	690.7	691.9	695.6
Government	361.9	380.9	374.9	373.7	370.0	369.3
Federal	56.8	56.1	56.2	55.5	55.0	55.3
State	91.3	92.7	90.2	89.9	88.8	88.2
Local	213.8	232.1	228.5	228.4	226.2	225.9
Nonag. Wage & Sal. Employ.*	2628.7	2668.9	2674.4	2656.8	2643.9	2649.0
As % of U.S.	2.86	2.92	2.94	2.94	2.93	2.92

*EMPLOYMENT REVIEW Concept.

APRIL CONTROL FORECAST (T5)

MASSACHUSETTS EMPLOYMENT, POPULATION, AND LABOR FORCE
(Thousands of People, Seasonally Adjusted)

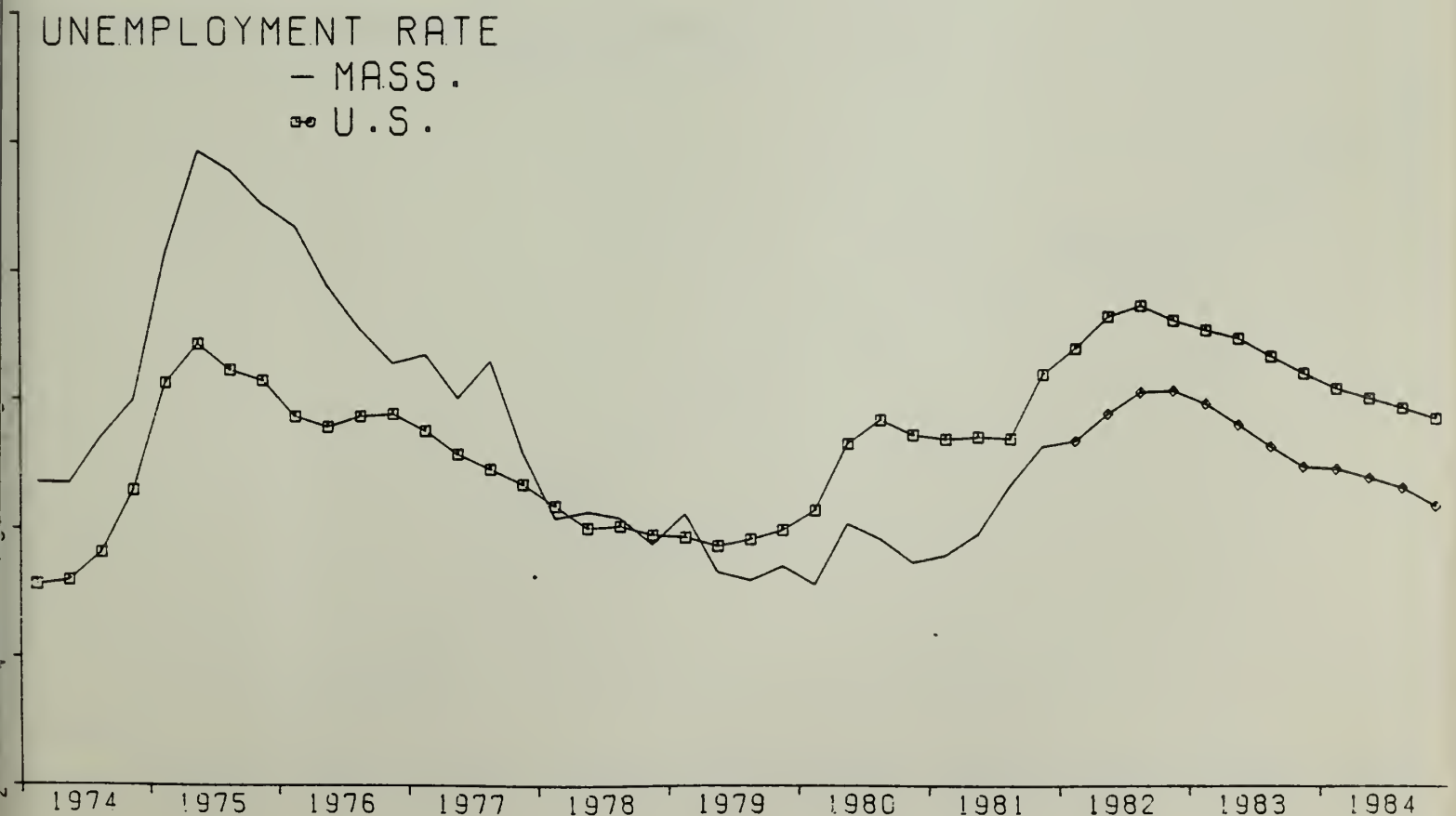
	1981:3	1981:4	1982:1	1982:2	1982:3	1982:4
Nonag. Wage & Sal. Employ.*	2628.7	2668.9	2674.4	2656.8	2643.9	2649.0
Plus: All Other Nonag.	164.2	165.2	166.2	165.1	164.6	165.1
Plus: Agriculture	27.5	25.1	25.1	25.7	25.7	25.7
Total Mass. Jobs	2820.3	2859.2	2865.6	2847.6	2834.2	2839.8
Less: Adjustments**	49.7	43.9	97.8	97.8	97.8	97.8
Total Employment***	2770.7	2815.3	2767.8	2749.8	2736.4	2742.0
As % of U.S.	2.75	2.81	2.78	2.77	2.75	2.73
Mass. Population	5729.4	5733.9	5737.6	5743.3	5749.3	5754.7
As % of U.S.	2.55	2.55	2.54	2.54	2.53	2.53
Mass. Populn. 16 and Over	4443.7	4457.0	4474.1	4480.3	4485.8	4490.9
Mass. Employment Rate****	59.2	59.9	59.8	59.3	58.9	59.0
Indexed to 1973	104.0	105.3	105.1	104.3	103.7	103.7
U.S. Employment Rate	53.8	53.4	52.9	52.4	52.2	52.3
Mass. Index Rel. To U.S.	98.7	100.7	101.5	101.5	101.3	101.3
Labor Force	2968.0	3035.3	2986.8	2980.9	2977.3	2984.3
Participation Rate	66.8	68.1	66.8	66.5	66.4	66.5
U.S. Participation Rate	63.6	63.7	63.4	63.5	63.6	63.8
Number of Unemployed	197.3	220.0	218.9	231.1	241.0	242.3
Unemployment Rate	6.6	7.2	7.3	7.8	8.1	8.1
U.S. Unemployment Rate	7.4	8.4	8.8	9.3	9.4	9.2

*EMPLOYMENT REVIEW concept.
**Adjustments for double counting and place of residence.
***MASSACHUSETTS TRENDS concept.
****Total employment divided by the population sixteen and over.

Data Resources Summary Table for the U.S. Economy - CONTROL032282

	1981	1982				1983			Years				
	IV	I	II	III	IV	I	II	III	1980	1981	1982	1983	1984
GNP and Its Components Billions of Dollars - SAAR													
Total Consumption	1908.3	1943.8	1964.0	2016.1	2068.0	2122.4	2170.2	2228.2	1672.7	1857.8	1998.0	2200.9	2426.9
Nonres. Fixed Investment	339.8	332.2	328.3	331.0	339.5	348.7	360.0	374.4	295.9	328.8	332.8	368.0	426.6
Res. Fixed Investment	94.2	94.5	100.7	112.1	123.7	134.0	142.5	150.8	105.3	105.5	107.8	146.3	173.5
Inventory Investment	9.4	-17.3	-6.9	2.1	10.1	10.4	15.6	16.8	-5.9	16.2	-3.0	16.6	28.4
Net Exports	24.7	19.2	22.8	24.6	23.5	23.3	23.5	22.4	23.3	26.0	22.5	23.6	25.6
Federal Purchases	253.3	256.5	252.3	252.4	264.9	268.7	276.0	284.2	198.9	230.2	256.5	280.8	309.0
State and Local Govt. Purchases	368.7	373.0	376.5	382.7	386.6	391.8	398.1	403.9	335.8	361.0	379.7	400.7	431.5
Gross National Product	2998.3	3001.9	3037.8	3121.1	3216.3	3299.2	3385.9	3480.8	2626.1	2925.5	3094.3	3436.8	3821.5
Real GNP (1972 Dollars)	1498.4	1481.5	1476.9	1492.9	1509.7	1522.1	1535.8	1552.9	1480.7	1510.3	1490.2	1544.7	1607.5
Prices and Wages - Annual Rates of Change													
Implicit Price Deflator	9.5	5.2	6.2	6.7	7.8	7.2	7.0	6.8	9.0	9.2	7.2	7.1	6.8
CPI - All Urban Consumers	7.8	3.9	4.5	5.9	6.7	7.3	7.1	7.1	13.5	10.3	6.4	6.8	6.9
Producer Price Index - Finished Goods	4.8	2.3	3.0	4.5	6.8	7.4	6.6	7.1	13.5	9.3	4.1	6.5	7.3
Compensation per Hour	6.2	8.7	7.3	7.3	7.3	7.6	7.9	8.0	9.9	10.0	7.8	7.6	8.3
Core Inflation	8.5	8.1	7.7	7.4	7.0	6.7	6.6	6.6	9.3	8.9	7.5	6.7	6.8
Production and Other Key Measures													
Industrial Production (1967=1.000)	1.462	1.412	1.414	1.447	1.485	1.516	1.541	1.573	1.470	1.509	1.439	1.556	1.651
Annual Rate of Change	-16.7	-13.0	0.5	9.8	10.8	8.6	6.8	8.7	-3.6	2.6	-4.6	8.1	6.1
Housing Starts (Mil. Units)	0.865	0.918	1.042	1.194	1.316	1.388	1.431	1.513	1.298	1.100	1.118	1.470	1.595
Retail Unit Car Sales (Mil. Units)	7.4	8.2	7.6	8.6	9.2	9.3	9.3	9.8	9.0	8.6	8.4	9.6	10.5
Unemployment Rate (%)	8.4	8.8	9.3	9.4	9.2	9.1	8.9	8.7	7.2	7.6	9.2	8.8	7.9
Federal Budget Surplus (NIA)	-99.5	-122.9	-127.2	-152.9	-140.0	-136.6	-128.6	-154.6	-61.2	-62.3	-135.8	-140.1	-128.9
Money and Interest Rates													
Money Supply (M-1)	436.7	448.4	450.9	458.3	461.0	465.8	471.2	475.6	415.8	436.7	461.0	484.2	505.9
Annual Rate of Change	5.9	11.1	2.2	6.7	2.4	4.2	4.8	3.8	7.0	5.0	5.6	5.0	4.5
New AA Corp. Utility Rate (%)	16.76	16.61	15.08	14.01	14.57	15.23	14.39	13.12	13.14	16.25	15.07	13.98	12.70
New High-Grade Corp. Bond Rate (%)	15.49	15.60	14.23	13.28	13.88	14.53	13.71	12.49	12.47	15.01	14.25	13.33	12.13
Federal Funds Rate (%)	13.59	13.93	12.27	11.94	13.37	14.00	13.13	12.76	13.36	16.38	12.88	13.46	11.92
Prime Rate (%)	17.01	16.58	14.84	14.38	15.73	16.18	15.40	14.91	15.27	18.87	15.38	15.50	14.02
Incomes - Billions of Dollars													
Personal Income	2486.5	2504.4	2547.8	2609.3	2677.9	2741.3	2801.6	2879.5	2160.3	2404.1	2584.8	2843.7	3141.3
Real Disposable Income (%Ch)	1.7	-0.6	1.5	9.0	3.1	2.9	1.6	9.4	0.7	2.2	2.1	4.1	4.0
Saving Rate (%)	6.1	5.5	5.9	6.9	6.7	6.5	6.3	7.5	5.6	5.3	6.3	6.9	7.3
Profits Before Tax	214.6	178.6	172.9	189.5	202.9	217.0	230.4	244.5	245.5	233.8	186.0	237.0	278.6
Profits After Tax	145.2	122.9	119.3	129.1	137.5	148.9	157.4	166.4	163.2	155.8	127.2	161.7	191.1
Company Profits	101.0	98.8	98.7	103.1	107.3	111.0	114.4	119.0	105.6	104.7	101.9	116.9	134.5
Four-Qtr. Percent Change	-7.3	-7.7	-7.0	-1.5	6.2	12.4	15.9	15.4	0.1	-0.8	-2.6	14.7	15.1
Composition of Real GNP - Annual Rates of Change													
Gross National Product	-4.5	-4.4	-1.2	4.4	4.6	3.3	3.6	4.5	-0.2	2.0	-1.3	3.7	4.1
Final Sales	-1.8	-1.4	-2.4	3.3	3.6	3.3	3.1	4.5	0.7	1.3	-0.8	3.1	3.8
Total Consumption	-2.2	2.2	-0.8	4.5	3.8	3.7	2.5	4.3	0.5	2.5	1.0	3.4	3.6
Nonres. Fixed Investment	-2.9	-13.9	-9.5	-2.1	4.5	3.9	5.3	8.4	-3.0	2.5	-5.3	3.4	8.2
Equipment	-7.9	-13.5	-8.0	1.6	9.5	6.4	6.8	10.6	-4.2	1.3	-5.4	6.2	9.8
Nonres. Construction	9.2	-14.7	-12.5	-9.7	-5.7	-1.7	1.9	3.5	-0.1	5.4	-4.9	-2.6	4.5
Res. Fixed Investment	-27.5	-5.3	19.2	41.4	35.7	25.4	16.6	13.8	-18.6	-6.1	-5.1	24.2	9.5
Exports	-6.6	-6.4	0.1	3.7	5.4	6.5	6.5	5.8	9.6	-0.4	-2.7	5.5	5.7
Imports	4.5	2.2	1.2	4.4	7.9	7.7	6.1	6.0	-0.1	5.9	4.2	6.3	5.4
Federal Government	28.1	1.7	-10.9	-4.8	2.2	-0.3	4.8	6.0	6.4	3.1	2.3	0.4	1.5
State and Local Governments	0.0	-2.5	-3.0	-0.6	-3.1	-2.1	-1.2	-1.9	1.0	-0.9	-2.2	-2.0	0.2

TOTAL NONAGRICULTURAL EMPLOYMENT
1974
1975
1976
1977
1978
1979
1980
1981
1982
1983
1984


UNEMPLOYMENT RATE
— MASS.
U.S.
1974
1975
1976
1977
1978
1979
1980
1981
1982
1983
1984

MANUFACTURING EMPLOYMENT
1974
1975
1976
1977
1978
1979
1980
1981
1982
1983
1984

NONMANUFACTURING EMPLOYMENT
1974
1975
1976
1977
1978
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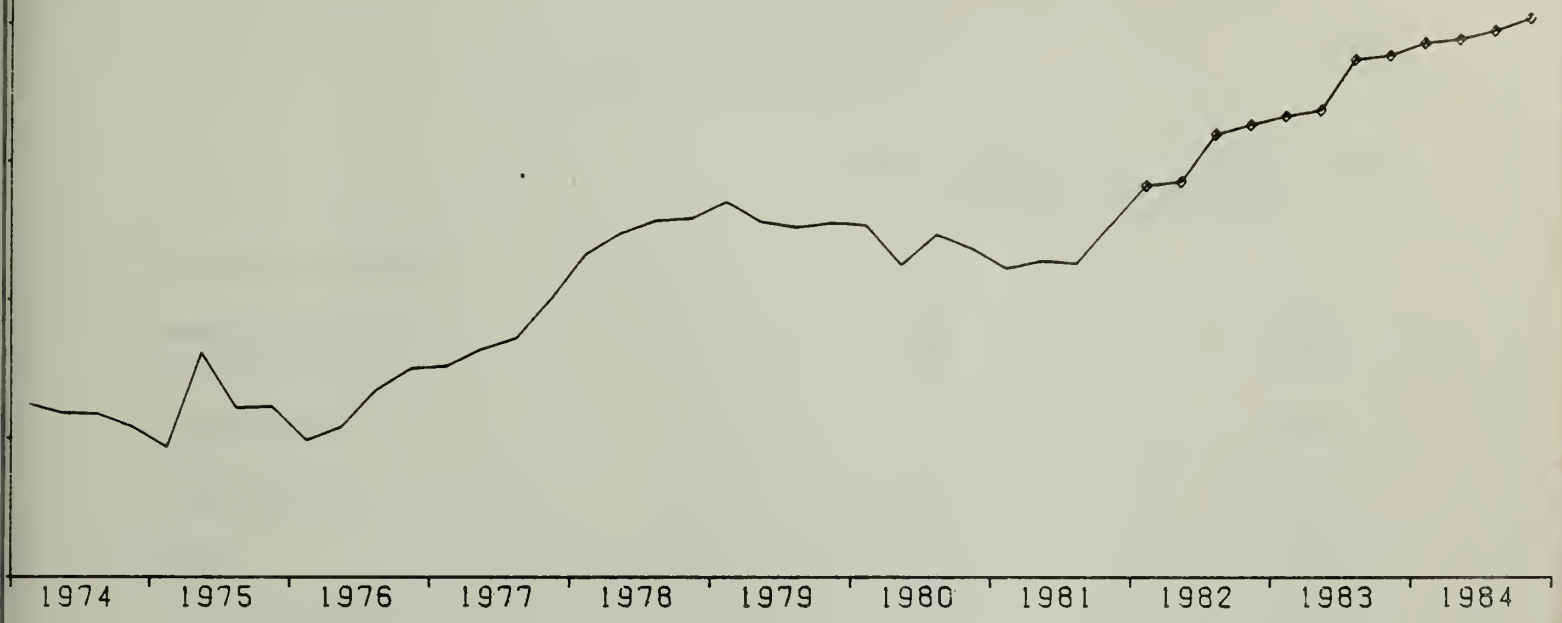
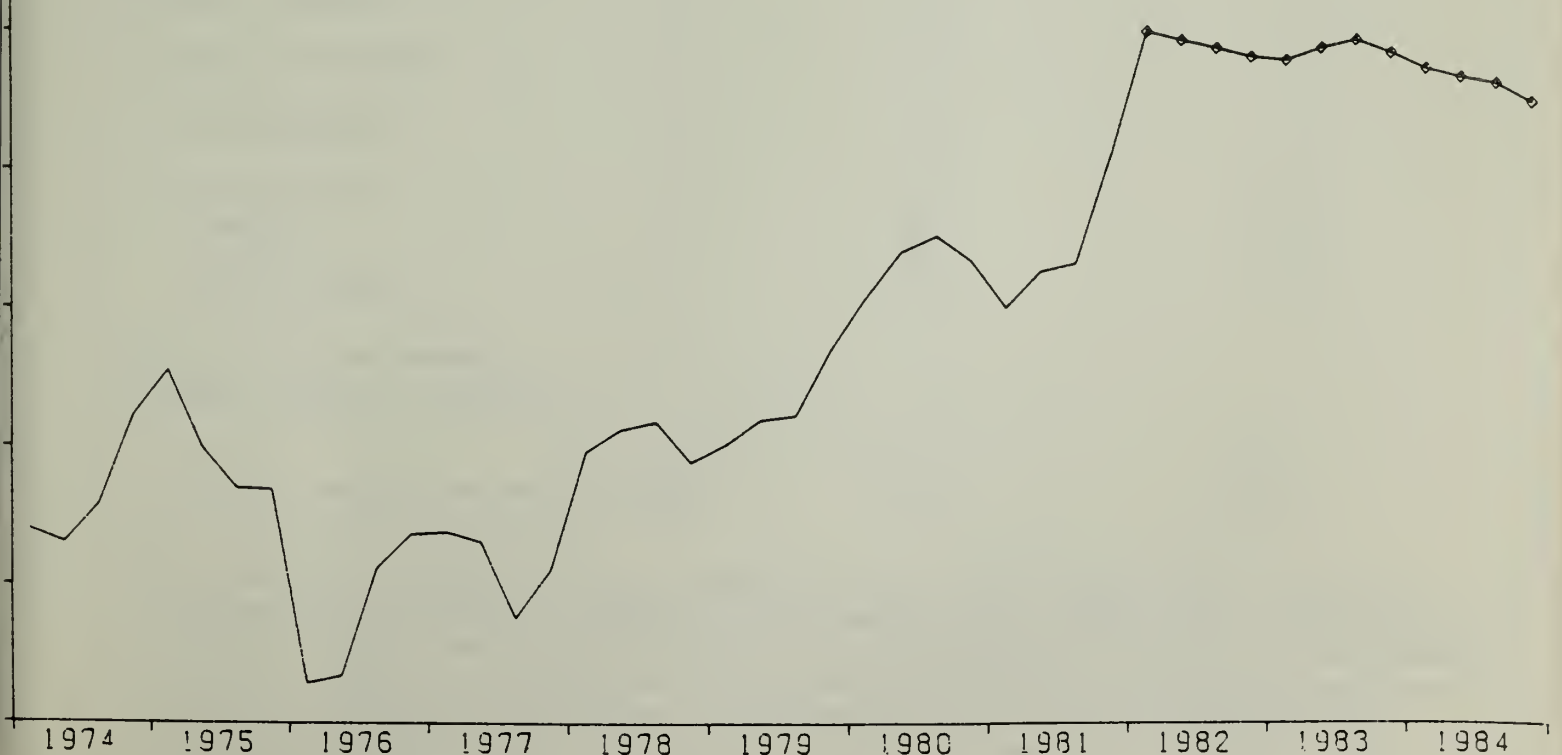
1981
1982
1983
1984

REAL PER CAPITA DISPOSABLE INCOME



REAL PER CAPITA DISPOSABLE INCOME
MASS. RELATIVE TO U.S.



The April 1982

Massachusetts Revenue Analysis and Forecasting Model Tax Forecast

by

George Treyz & Roy Williams*

	Fiscal 1982	Fiscal 1983
	(Millions of Dollars)	
Alcoholic Beverages	86	92
Commercial Banks	33	39
Savings Banks	40	42
Cigarettes	149	148
Corporations	479	400
Deeds	13	15
Estate and Inheritance	99	100
Income	2287	2476
Insurance	117	98
Motor Fuel	273	250
Public Utilities	29	21
Racing and Boxing	37	39
Room Occupancy	25	27
Sales and Use	914	992
Regular	603	633
Meals	167	186
Motor Vehicle	143	174
Misc. Dept. of Revenue	0	1
Beano, Raffles & Bazaars	7	7
Total (of amounts before rounding)	4588	4747

*Director and Associate Director, respectively, of the MEPA project, Economics Department, University of Massachusetts, Amherst, MA 01003 (Tel. (413)-545-0915).
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82/04/16

APRIL CONTROL FORECAST (T5)

MASSACHUSETTS TAX REVENUES
(Millions of Dollars)

	Fiscal 1981	Fiscal 1982	Fiscal 1983	Fiscal 1984
Alcoholic Beverages	85	86	92	96
Commercial Banks	38	33	39	43
Savings Banks	38	40	42	45
Cigarettes	148	149	148	149
Corporations	442	479	400	426
Deeds	13	13	15	17
Estate and Inheritance	82	99	100	107
Income	2058	2287	2476	2775
Insurance	114	117	98	106
Motor Fuel	238	273	250	257
Public Utilities	18	29	21	23
Room Occupancy	22	25	27	31
Sales and Use	860	914	992	1105
Regular	572	603	633	696
Meals	155	167	186	206
Motor Vehicle	132	143	174	203
Misc. Dept. of Revenue*	0	0	1	1
Dept. of Revenue Total	4156	4544	4701	5180
Racing and Boxing	32	37	39	44
Beano, Raffles & Bazaars**	6	7	7	8
Comptrollers' Rept. Total	4194	4588	4747	5232

*Includes Beano, Raffles & Bazaars before January, 1978
**As reported by Comptroller less amount reported by D. of R.

82/04/16

APRIL CONTROL FORECAST (T5)

MASSACHUSETTS TAX REVENUES
(Per Cent Changes at Annual Rates)

	Fiscal 1981	Fiscal 1982	Fiscal 1983	Fiscal 1984
Alcoholic Beverages	5.19	1.50	6.57	4.45
Commercial Banks	2.33	-14.62	18.63	10.13
Savings Banks	13.78	7.33	3.15	9.12
Cigarettes	2.85	.64	-.73	.53
Corporations	.79	8.39	-16.54	6.42
Deeds	5.88	-3.45	19.80	11.07
Estate and Inheritance	4.01	20.60	.69	7.29
Income	10.63	11.16	8.25	12.07
Insurance	2.25	2.71	-15.96	7.65
Motor Fuel	12.02	14.96	-8.30	2.81
Public Utilities	-23.52	65.16	-27.23	7.05
Room Occupancy	23.87	11.05	9.51	15.86
Sales and Use	15.38	6.26	8.60	11.39
Regular	13.10	5.35	4.97	9.88
Meals	13.01	7.68	11.02	11.07
Motor Vehicle	29.97	8.51	21.01	17.24
Misc. Dept. of Revenue*	-46.57	-5.62	28.81	11.06
Dept. of Revenue Total	9.48	9.36	3.44	10.20
Racing and Boxing	9.77	15.16	5.64	11.07
Beano, Raffles & Bazaars**	18.83	9.33	11.27	11.08
Comptrollers' Rept. Total	9.49	9.40	3.47	10.21

*Includes Beano, Raffles & Bazaars before January, 1978
**As reported by Comptroller less amount reported by D. of R.

82/04/16

APRIL CONTROL FORECAST (T5)

ANALYSIS OF MASSACHUSETTS TAX COLLECTIONS
(Money amounts in Millions of Dollars)

	Fiscal 1981	Fiscal 1982	Fiscal 1983	Fiscal 1984
ALCOHOLIC BEVERAGES	84.7	86.0	91.7	95.7
Surprise Factor	-.0	-.8	0.0	0.0
Processing Factor	0.0	0.0	0.0	0.0
Portion explained below (NS)	84.7	86.8	91.7	95.7
Portion explained below (SA)	84.7	86.9	91.7	95.8
Mult	1.01	1.01	1.01	1.01
Tax Rate (per 67$ of sales)	.24	.24	.24	.24
Population over 18	4247	4269	4301	4332
Real disp. income per adult(1.2*)	6.194	6.281	6.536	6.740
Tax effect ratio (-1.3*)	.89	.90	.90	.91
*Elasticity (power diff. from 1 to which variable is raised.)				
Same variable without exponent:				
Real disp. income per adult	4.678	4.733	4.895	5.024
Tax effect ratio	1.09	1.09	1.08	1.08
COMMERCIAL BANKS	38.2	32.6	38.7	42.6
Surprise Factor	.0	-3.4	0.0	0.0
Processing Factor	7.0	0.0	0.0	0.0
Portion explained below (NS)	31.2	36.1	38.7	42.6
Portion explained below (SA)	31.2	36.1	38.6	42.4
Mult	.81	.90	.90	.90
Tax Rate	.1254	.1254	.1254	.1254
Commercial bank profits (mil$)	2001	2108	2250	2475
SAVINGS BANKS	37.6	40.4	41.7	45.5
Surprise Factor	.0	1.5	0.0	0.0
Processing Factor	0.0	0.0	0.0	0.0
Portion explained below (NS)	37.6	38.9	41.7	45.5
Portion explained below (SA)	37.3	38.7	41.3	45.0
Mult	1.067	1.067	1.067	1.067
Tax Rate (Fixed wt. index*)	1.00	1.00	1.00	1.00
Sav. bank deposits index (.37*)	1.047	1.086	1.121	1.181
Comm. bank profits index (.63*)	1.46	1.51	1.64	1.81

*Weights used for rate and base composite indexes.

82/04/16

APRIL CONTROL FORECAST (T5)

ANALYSIS OF MASSACHUSETTS TAX COLLECTIONS
(Per Cent Changes at Annual Rates)

	Fiscal 1981	Fiscal 1982	Fiscal 1983	Fiscal 1984
ALCOHOLIC BEVERAGES	5.19	1.50	6.57	4.45
Surprise Factor	0.00	-.96	0.00	0.00
Processing Factor	0.00	0.00	0.00	0.00
Echo Factor	0.00	-.00	1.00	0.00
Portion explained below (NS)	5.19	2.47	5.57	4.45
Portion explained below (SA)	5.18	2.53	5.54	4.45
Mult	5.30	0.00	0.00	0.00
Tax Rate (per 67$ of sales)	0.00	0.00	0.00	0.00
Population over 18	.47	.52	.74	.72
Real disp. income per adult(1.2*)	-1.62	1.39	4.06	3.11
Tax effect ratio (-1.3*)	1.05	.58	.68	.57
*Elasticity (power diff. from 1 to which variable is raised.)				
Same variable without exponent:				
Real disp. income per adult	-1.37	1.18	3.43	2.63
Tax effect ratio	-.79	-.44	-.51	-.43
COMMERCIAL BANKS	2.33	-14.62	18.63	10.13
Surprise Factor	.00	-11.03	0.00	0.00
Processing Factor	18.73	0.00	0.00	0.00
Echo Factor	0.00	-19.13	11.33	0.00
Portion explained below (NS)	-16.41	15.54	7.30	10.13
Portion explained below (SA)	-15.77	15.88	6.72	10.03
Mult	-24.78	10.00	0.00	0.00
Tax Rate	0.00	0.00	0.00	0.00
Commercial bank profits (mil$)	11.99	5.35	6.72	10.03
SAVINGS BANKS	13.78	7.33	3.15	9.12
Surprise Factor	.00	4.12	0.00	0.00
Processing Factor	0.00	0.00	0.00	0.00
Echo Factor	-.00	0.00	-4.11	0.00
Portion explained below (NS)	13.78	3.21	7.26	9.12
Portion explained below (SA)	13.88	3.60	6.83	8.96
Mult	5.52	0.00	0.00	0.00
Tax Rate (Fixed wt. index*)	0.00	0.00	0.00	0.00
Sav. bank deposits index (.37*)	2.69	3.81	3.17	5.33
Comm. bank profits index (.63*)	10.28	3.51	8.38	10.42

*Weights used for rate and base composite indexes.

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APRIL CONTROL FORECAST (T5)

ANALYSIS OF MASSACHUSETTS TAX COLLECTIONS
(Money amounts in Millions of Dollars)

	Fiscal 1981	Fiscal 1982	Fiscal 1983	Fiscal 1984
CIGARETTES	148.1	149.1	148.0	148.8
Surprise Factor	.0	1.7	0.0	0.0
Processing Factor	3.0	0.0	0.0	0.0
Portion explained below (NS)	145.1	147.4	148.0	148.8
Portion explained below (SA)	145.1	147.4	148.0	148.8
Mult	1.02	1.03	1.03	1.03
Tax Rate	.21	.21	.21	.21
Population over 18	4247	4269	4301	4332
Per capita Use (Time trend)	.664	.656	.648	.641
Tax effect ratio (-.75*)	.83	.84	.85	.86
*Elasticity (power diff. from 1 to which variable is raised.)				
Same variable without exponent:				
Tax effect ratio	1.28	1.25	1.24	1.22
CORPORATIONS	442.3	479.4	400.1	425.8
Surprise Factor	.0	32.4	0.0	0.0
Processing Factor	-15.0	0.0	0.0	0.0
Portion explained below (NS)	457.3	447.0	400.1	425.8
Portion explained below (SA)	457.4	446.8	400.7	424.6
Mult	.95	.98	1.02	1.02
Corporate profits (1.01*)	6196	5815	4969	5293
Tax rate	.095	.095	.095	.095
Manufact. Capital stock (.08*)	21654	25125	28553	33006
Tax rate	.0026	.0026	.0026	.0026
Mnfact. equip. investment (-.09*)	2385	2467	2563	3039
Credit rate	.03	.03	.03	.03
*Probable approx. contribution to total collections in a typical year.				
EEDS	13.0	12.5	15.0	16.7
Surprise Factor	-.0	-1.0	0.0	0.0
Processing Factor	0.0	0.0	0.0	0.0
Portion explained below (NS)	13.0	13.6	15.0	16.7
Portion explained below (SA)	13.0	13.6	15.1	16.7
Mult	.85	.80	.80	.80
Tax Rate (per $500)	1.14	1.14	1.14	1.14
Disposable income	50407	55522	61333	68128

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APRIL CONTROL FORECAST (T5)

ANALYSIS OF MASSACHUSETTS TAX COLLECTIONS
(Per Cent Changes at Annual Rates)

	Fiscal 1981	Fiscal 1982	Fiscal 1983	Fiscal 1984
CIGARETTES	2.85	.64	-.73	.53
Surprise Factor	0.00	1.16	0.00	0.00
Processing Factor	2.08	0.00	0.00	0.00
Echo Factor	0.00	-2.08	-1.14	0.00
Portion explained below (NS)	.76	1.56	.41	.53
Portion explained below (SA)	.79	1.58	.40	.53
Mult	-.39	1.00	0.00	0.00
Tax Rate	0.00	0.00	0.00	0.00
Population over 18	.47	.52	.74	.72
Per capita Use (Time trend)	-1.19	-1.19	-1.19	-1.19
Tax effect ratio (-.75*)	1.93	1.26	.87	1.01
*Elasticity (power diff. from 1 to which variable is raised.)				
Same variable without exponent:				
Tax effect ratio	-2.53	-1.67	-1.15	-1.34
CORPORATIONS	.79	8.39	-16.54	6.42
Surprise Factor	0.00	7.08	0.00	0.00
Processing Factor	-3.42	0.00	0.00	0.00
Echo Factor	-.00	3.56	-6.05	0.00
Portion explained below (NS)	4.20	-2.25	-10.49	6.42
Portion explained below (SA)	4.27	-2.31	-10.33	5.98
Mult	3.76	3.00	3.88	0.00
Corporate profits (1.01*)	.65	-6.14	-14.56	6.52
Tax rate	0.00	0.00	0.00	0.00
Manufact. Capital stock (.08*)	17.52	16.03	13.64	15.59
Tax rate	0.00	0.00	0.00	0.00
Mnfact. equip. investment (-.09*)	15.10	3.46	3.87	18.58
Credit rate	0.00	0.00	0.00	0.00
*Probable approx. contribution to total collections in a typical year.				
DEEDS	5.88	-3.45	19.80	11.07
Surprise Factor	0.00	-8.10	0.00	0.00
Processing Factor	0.00	0.00	0.00	0.00
Echo Factor	0.00	0.00	9.27	0.00
Portion explained below (NS)	5.88	4.65	10.53	11.07
Portion explained below (SA)	5.71	4.64	10.46	11.08
Mult	-4.72	-5.00	0.00	0.00
Tax Rate (per $500)	0.00	0.00	0.00	0.00
Disposable income	10.95	10.15	10.46	11.08

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PRIL CONTROL FORECAST (T5)

NALYSIS OF MASSACHUSETTS TAX COLLECTIONS
Money amounts in Millions of Dollars)

	Fiscal 1981	Fiscal 1982	Fiscal 1983	Fiscal 1984
STATE AND INHERITANCE	82.1	99.0	99.7	107.0
Surprise Factor	.0	3.5	0.0	0.0
Processing Factor	0.0	0.0	0.0	0.0
Portion explained below (NS)	82.1	95.5	99.7	107.0
Portion explained below (SA)	82.2	95.5	99.8	107.1
Mult	.98	1.05	1.05	1.05
Household net worth	119677	129965	135781	145635
COME	2057.7	2287.2	2476.0	2774.9
Surprise Factor (not used)	.0	5.9	0.0	0.0
Processing Factor	-25.0	-31.0	-54.6	-58.7
Portion explained (see (NS)	2082.7	2318.2	2530.6	2833.6
separate detail) (SA)	2082.7	2318.2	2530.6	2833.6
Mult	1.09	1.10	1.10	1.10
Earned Income	41832	45691	49217	54323
Tax Rate	.0538	.0538	.0538	.0538
Unearned Income	2139	2347	2514	2768
Tax Rate	.1075	.1075	.1075	.1075
Total Deductions & Exemptions	10583	10928	11181	11646
SURANCE	114.0	117.1	98.4	105.9
Surprise Factor	.0	1.5	0.0	0.0
Processing Factor	0.0	0.0	0.0	0.0
Portion explained below (NS)	114.0	115.6	98.4	105.9
Portion explained below (SA)	114.1	115.6	98.8	105.2
Mult	.83	.90	.90	.90
Corporate profits	6196	5815	4969	5293

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APRIL CONTROL FORECAST (T5)

ANALYSIS OF MASSACHUSETTS TAX COLLECTIONS
(Per Cent Changes at Annual Rates)

	Fiscal 1981	Fiscal 1982	Fiscal 1983	Fiscal 1984
ESTATE AND INHERITANCE	4.01	20.60	.69	7.29
Surprise Factor	0.00	4.31	0.00	0.00
Processing Factor	0.00	0.00	0.00	0.00
Echo Factor	-4.11	-.00	-3.73	0.00
Portion explained below (NS)	8.12	16.29	4.42	7.29
Portion explained below (SA)	8.03	16.20	4.48	7.26
Mult	-.90	7.00	0.00	0.00
Household net worth	9.02	8.60	4.48	7.26
INCOME	10.63	11.16	8.25	12.07
Surprise Factor (not used)	0.00	.28	0.00	0.00
Processing Factor	-1.34	-1.49	-2.36	-2.32
Echo Factor	-.00	1.33	1.45	2.42
Portion explained (see (NS)	11.97	11.31	9.16	11.97
separate detail) (SA)	11.97	11.31	9.16	11.97
Mult	.40	.20	0.00	0.00
Earned Income	9.54	9.22	7.72	10.37
Tax Rate	0.00	0.00	0.00	0.00
Unearned Income	10.81	9.74	7.13	10.07
Tax Rate	0.00	0.00	0.00	0.00
Total Deductions & Exemptions	3.91	3.26	2.31	4.16
INSURANCE	2.25	2.71	-15.96	7.65
Surprise Factor	.00	1.35	0.00	0.00
Processing Factor	0.00	0.00	0.00	0.00
Echo Factor	0.00	-.00	-1.12	0.00
Portion explained below (NS)	2.25	1.35	-14.83	7.65
Portion explained below (SA)	2.54	1.37	-14.56	6.52
Mult	1.88	8.00	0.00	0.00
Corporate profits	.65	-6.14	-14.56	6.52

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APRIL CONTROL FORECAST (T5)

ANALYSIS OF MASSACHUSETTS TAX COLLECTIONS
(Money amounts in Millions of Dollars)

	Fiscal 1981	Fiscal 1982	Fiscal 1983	Fiscal 1984
MOTOR FUELS	237.5	273.1	250.4	257.4
Surprise Factor	.0	-1.3	0.0	0.0
Processing Factor	0.0	0.0	0.0	0.0
Portion explained below (NS)	237.5	274.4	250.4	257.4
Portion explained below (SA)	235.3	274.7	250.5	257.1
Mult	1.04	1.04	1.04	1.04
Tax Rate	.099	.112	.104	.110
Consumption, 72 $, gas & oil	677.2	700.2	685.9	662.0
Tax effect ratio (-.23*)	1.000	.999	1.004	1.004
*Elasticity (power diff. from 1 to which variable is raised.)				
Same variable without exponent:				
Tax effect ratio	.999	1.002	.984	.982
PUBLIC UTILITIES	17.6	29.1	21.2	22.7
Surprise Factor	-.0	4.3	0.0	0.0
Processing Factor	0.0	0.0	0.0	0.0
Portion explained below (NS)	17.6	24.9	21.2	22.7
Portion explained below (SA)	17.6	24.8	21.2	22.6
Mult	.52	.78	.78	.78
Corporate profits	6196	5815	4969	5293
ROOM OCCUPANCY	22.1	24.5	26.9	31.1
Surprise Factor	-.0	.3	0.0	0.0
Processing Factor	1.0	0.0	0.0	0.0
Portion explained below (NS)	21.1	24.2	26.9	31.1
Portion explained below (SA)	21.2	24.3	27.0	31.3
Mult	1.22	1.31	1.31	1.31
Tax Rate	.057	.057	.057	.057
Real p. c. disp. income (.74*)	2.469	2.481	2.542	2.596
Disposable income	51093	56077	61800	68700
Employment effect (2.1*)	.87	.84	.83	.85
*Elasticity (power diff. from 1 to which variable is raised.)				
Same variable without exponent:				
Real per cap. dispos. income	3.386	3.409	3.522	3.624
Employment effect	.93	.92	.91	.92

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APRIL CONTROL FORECAST (T5)

ANALYSIS OF MASSACHUSETTS TAX COLLECTIONS
(Per Cent Changes at Annual Rates)

	Fiscal 1981	Fiscal 1982	Fiscal 1983	Fiscal 1984
MOTOR FUELS	12.02	14.96	-8.30	2.81
Surprise Factor	0.00	-.56	0.00	0.00
Processing Factor	0.00	0.00	0.00	0.00
Echo Factor	-.00	0.00	.44	0.00
Portion explained below (NS)	12.02	15.52	-8.74	2.81
Portion explained below (SA)	10.90	16.72	-8.79	2.62
Mult	2.33	0.00	0.00	0.00
Tax Rate	16.67	12.86	-7.30	6.27
Consumption, 72 $, gas & oil	-6.90	3.40	-2.05	-3.48
Tax effect ratio (-.23*)	-.10	-.08	.43	.06
*Elasticity (power diff. from 1 to which variable is raised.)				
Same variable without exponent:				
Tax effect ratio	.41	.34	-1.82	-.26
PUBLIC UTILITIES	-23.52	65.16	-27.23	7.05
Surprise Factor	0.00	24.21	0.00	0.00
Processing Factor	0.00	0.00	0.00	0.00
Echo Factor	-.00	0.00	-12.50	0.00
Portion explained below (NS)	-23.52	40.95	-14.73	7.05
Portion explained below (SA)	-23.38	40.80	-14.56	6.52
Mult	-23.87	50.00	0.00	0.00
Corporate profits	.65	-6.14	-14.56	6.52
ROOM OCCUPANCY	23.87	11.05	9.51	15.86
Surprise Factor	0.00	1.45	0.00	0.00
Processing Factor	5.61	0.00	0.00	0.00
Echo Factor	-.00	-5.27	-1.38	0.00
Portion explained below (NS)	18.26	14.87	10.89	15.86
Portion explained below (SA)	18.32	14.67	11.16	15.91
Mult	9.27	7.00	0.00	0.00
Tax Rate	0.00	0.00	0.00	0.00
Real p. c. disp. income (.74*)	-.85	.49	2.45	2.13
Disposable income	10.87	9.75	10.21	11.17
Employment effect (2.1*)	-1.53	-2.81	-1.59	2.09
*Elasticity (power diff. from 1 to which variable is raised.)				
Same variable without exponent:				
Real per cap. dispos. income	-1.14	.66	3.32	2.89
Employment effect	-.73	-1.35	-.76	.99

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APRIL CONTROL FORECAST (T5)

ANALYSIS OF MASSACHUSETTS TAX COLLECTIONS
(Money amounts in Millions of Dollars)

	Fiscal 1981	Fiscal 1982	Fiscal 1983	Fiscal 1984
SALES--REGULAR	572.5	603.1	633.1	695.6
Surprise Factor	.0	.8	0.0	0.0
Processing Factor	21.0	4.0	0.0	0.0
Portion explained below (NS)	551.5	598.3	633.1	695.6
Portion explained below (SA)	551.3	598.2	633.1	695.6
Mult	1.09	1.14	1.14	1.14
Tax Rate	.050	.050	.050	.050
Consumption expend. net of m.v.	3399	3568	3774	4142
Rel. employment effect (1.03*)	1.02	1.01	1.01	1.02
Tax effect ratio (-5.5*)	.76	.76	.76	.76
*Elasticity (power diff. from 1 to which variable is raised.)				
Same variable without exponent:				
Relative employment effect	1.02	1.01	1.01	1.01
Tax effect ratio	1.05	1.05	1.05	1.05
SALES--MEALS	155.5	167.4	185.9	206.5
Surprise Factor	.0	-.8	0.0	0.0
Processing Factor	2.0	0.0	0.0	0.0
Portion explained below (NS)	153.5	168.2	185.9	206.5
Portion explained below (SA)	153.7	168.4	186.1	206.7
Mult	.99	.98	.98	.98
Tax Rate	.050	.050	.050	.050
Disposable income	50407	55522	61333	68128
Tax effect ratio (-1.25*)	.90	.90	.90	.90
Tax effect ratio	1.05	1.05	1.05	1.05
SALES--MOTOR VEHICLES	132.1	143.4	173.5	203.4
Surprise Factor	.0	1.6	0.0	0.0
Processing Factor	3.0	0.0	0.0	0.0
Portion explained below (NS)	129.1	141.8	173.5	203.4
Portion explained below (SA)	129.9	141.5	173.7	203.3
Mult	1.12	1.18	1.15	1.14
Tax Rate	.050	.050	.050	.050
Consumption expend., motor veh.	2499	2607	3270	3860
Tax effect ratio (-8.0*)	.68	.68	.68	.68
Tax effect ratio	1.05	1.05	1.05	1.05

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APRIL CONTROL FORECAST (T5)

ANALYSIS OF MASSACHUSETTS TAX COLLECTIONS
(Per Cent Changes at Annual Rates)

	Fiscal 1981	Fiscal 1982	Fiscal 1983	Fiscal 1984
SALES--REGULAR	13.10	5.35	4.97	9.88
Surprise Factor	0.00	.15	0.00	0.00
Processing Factor	4.15	.73	0.00	0.00
Echo Factor	-.00	-4.01	-.84	0.00
Portion explained below (NS)	8.95	8.49	5.82	9.88
Portion explained below (SA)	8.95	8.51	5.83	9.87
Mult	-.70	4.00	0.00	0.00
Tax Rate	0.00	0.00	0.00	0.00
Consumption expend. net of m.v.	8.65	4.97	5.79	9.76
Rel. employment effect (1.03*)	.98	-.62	.04	.11
Tax effect ratio (-5.5*)	0.00	0.00	0.00	0.00
*Elasticity (power diff. from 1 to which variable is raised.)				
Same variable without exponent:				
Relative employment effect	.95	-.60	.04	.10
Tax effect ratio	0.00	0.00	0.00	0.00
SALES--MEALS	13.01	7.68	11.02	11.07
Surprise Factor	0.00	-.50	0.00	0.00
Processing Factor	1.45	0.00	0.00	0.00
Echo Factor	-.00	-1.40	.51	0.00
Portion explained below (NS)	11.56	9.58	10.50	11.07
Portion explained below (SA)	11.51	9.60	10.46	11.08
Mult	.51	-.50	0.00	0.00
Tax Rate	0.00	0.00	0.00	0.00
Disposable income	10.95	10.15	10.46	11.08
Tax effect ratio (-1.25*)	0.00	0.00	0.00	0.00
Tax effect ratio	0.00	0.00	0.00	0.00
SALES--MOTOR VEHICLES	29.97	8.51	21.01	17.24
Surprise Factor	0.00	1.24	0.00	0.00
Processing Factor	2.95	0.00	0.00	0.00
Echo Factor	0.00	-2.52	-1.36	0.00
Portion explained below (NS)	27.02	9.80	22.38	17.24
Portion explained below (SA)	26.14	8.92	22.76	17.05
Mult	21.91	4.44	-2.13	-.87
Tax Rate	0.00	0.00	0.00	0.00
Consumption expend., motor veh.	3.47	4.29	25.46	18.03
Tax effect ratio (-8.0*)	0.00	0.00	0.00	0.00
Tax effect ratio	0.00	0.00	0.00	0.00

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APRIL CONTROL FORECAST (T5)

ANALYSIS OF MASSACHUSETTS INCOME TAX COLLECTIONS
(Money amounts in Millions of Dollars)

	Fiscal 1981	Fiscal 1982	Fiscal 1983	Fiscal 1984
TOTAL INCOME TAX	2057.7	2287.2	2476.0	2774.9
Portion explained below (SA)	2082.7	2318.2	2530.6	2833.6
Mult	1.09	1.10	1.10	1.10
Earned Income Base	41832	45691	49217	54323
Earned Income Tax Rate	.0538	.0538	.0538	.0538
Sources of Earned Income:				
Wages & Salaries	38173	41639	44785	49363
Per Cent Taxed	97.0	97.0	97.0	97.0
Proprietors' Income	2566	2640	2903	3306
Per Cent Taxed	67.0	67.0	67.0	67.0
Pensions & Annuities	863	935	1025	1130
Per Cent Taxed	51.0	51.0	51.0	51.0
Interest (at earned rate)	3334	3875	4347	4857
Per Cent Taxed	45.0	45.0	45.0	45.0
Other	2290	2543	2779	3050
Per Cent Taxed	52.5	52.5	52.5	52.5
Unearned Income Base	2139	2347	2514	2768
Unearned Income Tax Rate	.1075	.1075	.1075	.1075
Sources of Unearned Income:				
Dividends	1916	2227	2498	2791
Per Cent Taxed	60.4	60.4	60.4	60.4
Capital Gains	598	521	437	435
Statutory Per Cent Taxed	70.0	55.0	40.0	40.0
Per Cent of Stat. C.G. Taxed	80.0	80.0	80.0	80.0
Interest (at unearned rate)	833	969	1087	1214
Per Cent Taxed	60.4	60.4	60.4	60.4
Total Deductions & Exemptions	10583	10928	11181	11646
Basic Exemption (Wage earners)	5370	5366	5372	5510
Basic Exemption (Self-employed)	328	330	332	342
Blindness	6	6	6	6
Day Care	438	438	440	444
Dependents	1132	1112	1102	1104
Elderly	273	275	278	282
Separate Filing	-12	-12	-12	-12
Non-working Spouses	419	416	416	410
Retirement Contributions	2135	2451	2657	2920
Other deductions	195	215	234	259
Other Exemptions	318	351	383	422

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APRIL CONTROL FORECAST (T5)

ANALYSIS OF MASSACHUSETTS INCOME TAX COLLECTIONS
(Per Cent Changes at Annual Rates)

	Fiscal 1981	Fiscal 1982	Fiscal 1983	Fiscal 1984
TOTAL INCOME TAX	10.63	11.16	8.25	12.07
Portion explained below (SA)	11.97	11.31	9.16	11.97
Mult	.40	.20	0.00	0.00
Earned Income Base	9.54	9.22	7.72	10.37
Earned Income Tax Rate	0.00	0.00	0.00	0.00
Sources of Earned Income:				
Wages & Salaries	9.39	9.08	7.56	10.22
Per Cent Taxed	0.00	0.00	0.00	0.00
Proprietors' Income	5.72	2.89	9.97	13.88
Per Cent Taxed	0.00	0.00	0.00	0.00
Pensions & Annuities	8.52	8.40	9.58	10.21
Per Cent Taxed	0.00	0.00	0.00	0.00
Interest (at earned rate)	17.01	16.24	12.17	11.74
Per Cent Taxed	0.00	0.00	0.00	0.00
Other	11.48	11.04	9.29	9.75
Per Cent Taxed	0.00	0.00	0.00	0.00
Unearned Income Base	10.81	9.74	7.13	10.07
Unearned Income Tax Rate	0.00	0.00	0.00	0.00
Sources of Unearned Income:				
Dividends	17.01	16.24	12.17	11.74
Per Cent Taxed	0.00	0.00	0.00	0.00
Capital Gains	-6.40	-12.82	-16.21	-.27
Statutory Per Cent Taxed	-22.22	-21.43	-27.27	0.00
Per Cent of Stat. C.G. Taxed	0.00	0.00	0.00	0.00
Interest (at unearned rate)	17.01	16.24	12.17	11.74
Per Cent Taxed	0.00	0.00	0.00	0.00
Total Deductions & Exemptions	3.91	3.26	2.31	4.16
Basic Exemption (Wage earners)	.82	-.07	.11	2.56
Basic Exemption (Self-employed)	-.02	.86	.45	3.10
Blindness	-.17	.06	.39	.51
Day Care	.29	-.01	.37	.88
Dependents	-2.03	-1.73	-.90	.16
Elderly	.97	.81	1.11	1.34
Separate Filing	NM	NM	NM	NM
Non-working Spouses	5.78	-.56	.03	-1.42
Retirement Contributions	15.12	14.81	8.42	9.90
Other deductions	11.25	10.10	9.11	10.30
Other Exemptions	11.25	10.10	9.11	10.30

82/04/16

APRIL CONTROL FORECAST (T5)

SUMMARY REPORT
MASSACHUSETTS ECONOMIC POLICY ANALYSIS MODEL
(Units as Indicated)

	Fiscal 1981	Fiscal 1982	Fiscal 1983	Fiscal 1984
Employment--Nonag. W. & S.	2659	2657	2660	2729
% Change	.9	-.1	.1	2.6
Manufacturing	668	658	640	662
% Change	-1.5	-1.4	-2.6	3.3
Non-Manufacturing	1991	1999	2020	2068
% Change	1.7	.4	1.0	2.4
Unemployment Rate	5.7	7.2	7.9	7.0
Employment Rate Index*	106.0	104.7	104.1	106.2
% Change	-.2	-1.2	-.6	2.0
Relative to U.S. Index*	100.9	100.6	101.4	101.8
Rate of Wage Change	9.3	8.1	7.7	7.2
Wage Index Rel. to U.S.*	93.9	93.8	94.1	94.4
Avg. Weekly Hours in Mfg.	40.0	40.0	40.1	40.4
Rate of Price Inflation	12.0	8.3	6.0	7.5
Relative to U.S. CPI*	96.6	96.2	96.3	96.7
Personal Income (mil$)	60421	66527	72586	80063
% Change	11.3	10.1	9.1	10.3
Disposable Income (mil$)	50407	55522	61333	68128
% Change	10.9	10.1	10.5	11.1
Real Per Cap. D.I. Index*	105.9	107.6	111.7	114.9
Relative to U.S.*	104.5	106.7	107.7	107.6
Rel. Business Cost Index*	96.5	96.8	97.0	97.3
Manufacturing*	95.6	94.9	95.0	95.3
Non-Manufacturing*	97.0	97.6	97.8	98.2

*Indexes equal 100 in calendar 1973.

NOTES FOR MRAF APRIL 1982

Tax forecast. For a full documentation please request the MRAF booklet.

The forecast with the Massachusetts Revenue Analysis and Forecasting (MRAF) model is made using a documented automatic procedure except for the explicit introduction of judgmental information. For this forecast the judgment adjustments for each tax affected are listed alphabetically along with an appraisal of the effect of the adjustment.

ALCOHOLIC BEVERAGES

No adjustments.

BANKS (COMMERCIAL)

Seven million dollars assumed to be special collections in the third quarter of 1980 (80:3). The mult. was increased by 10 percent for fiscal 1982 on the basis of experience in the first nine months of fiscal year 1982.

BANKS (SAVINGS)

No adjustments.

CIGARETTES

Three million dollars added for special processing in 1981:2; six million added in 1981:3 and six million removed in 1982:2. This reflects processing changes that had the effect of changing the past pattern of receipts of 1 2/3 months in June, 1/3 month in July to 2 months in June 1981, 1 month in July 1981 and 1 month in June 1982. The mult. is increased by 1 percent in fiscal 1982 based on collections to date.

CORPORATIONS

Additive adjustments of -$10 and -5 million were made for 81:1 and 81:2 respectively to allow for the effect of changing the law so that corporations can deduct refunds from current estimated payments rather than wait for a refund check from the state. The mult. was increased by three percent for fiscal 1982 and by seven percent for subsequent years based on collections in the first three quarters of fiscal 1982.

DEEDS

Mult. was decreased by five percent based on current experience.

ESTATE AND INHERITANCE

Mult. was increased by seven percent on the basis of above expected collections in this fiscal year.

INCOME

Twenty-five million dollars was added to 1981:3 and subtracted from 1981:2 to reflect staffing problems in June 1981 that led to more spillover into July than usual.

Reductions of -$14, -$42 million for 82:1 and 81:2 (and -$18 and $37 for 83:1 and 83:2 and -$19, and -$39 for 84:1 and 84:2) were made to capture the effect of deductions of rental payments allowed under Proposition 2-1/2. The effect is to reduce predicted collections by $56, $55, and $59 million in fiscal 82, 83, and 84 respectively. The mult. was increased 0.2 percent on the basis of three quarters' experience

INSURANCE

The mult. was increased by eight percent based on fiscal 1982 collections.

MOTOR FUELS

Three million dollars in special processing is assumed to be subtracted from 81:1 and added to 81:2 because of a larger than usual spillover from the first to the second quarter.

PUBLIC UTILITIES

The mult. is increased 50 percent on the basis of the unusually low default mult. and strong recent collections.

ROOM OCCUPANCY

In 81:1, one million dollars of the reported collections assumed to be due to a speedup in collections. The mult. is increased seven percent on the basis of fiscal 1982 collections.

SALES (REGULAR)

In 81:1, $17 million, and in 81:2, $4 million is assumed to be due to the collection speed up. Four million added to 81:3 for unusual spillover. The mult. is increased by four percent based on collections to date.

SALES (MEALS)

In 81:1 and 81:2, one million dollars is assumed to be due to the collections speed up. The mult. is reduced by 0.5 percent based on year-to-date collections.

SALES (MOTOR VEHICLES)

Three million dollars added to special processing in 81:2 for collections speed up. The mult. was increased by about five percent for the year to date based on experience, then decreased by about two percent for the rest of calendar 1982 and by an additional two percent for 1983 and subsequent years to phase out the spurt in auto buying induced by the lower personal property taxes mandated by Proposition 2 1/2.

MASS. UM 1.2:M58/982-6

The July 1982

Massachusetts Economic Policy Analysis (MEPA)

Model Forecast

by

George Treyz and Roy Williams*

GOVERNMENT DOCUMENTS COLLECTION
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*Director and Associate Director, respectively, of the MEPA project, Economics Department, University of Massachusetts, Amherst, MA 01003. (Tel. 413-545-0915).
Support from the Department of Public Welfare, the Division of Employment Security, the Department of Commerce and Development, and Massport. National inputs from CONTROL062682 and STAGFLATION063082 from Data Resources, Inc.

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THE JULY 1982

MASSACHUSETTS ECONOMIC POLICY ANALYSIS (MEPA)

MODEL FORECASTS

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JULY CONTROL FORECAST (T)

SUMMARY REPORT
MASSACHUSETTS ECONOMIC POLICY ANALYSIS MODEL
(Units as Indicated)

	1980	1981	1982	1983	1984
Employment--Nonag. W. & S.	2652	2654	2623	2659	2745
% Change	1.9	.1	-1.2	1.4	3.3
Manufacturing	675	667	639	643	664
% Change	.4	-1.2	-4.2	.6	3.4
Non-Manufacturing	1978	1987	1985	2016	2081
% Change	2.4	.5	-.1	1.6	3.2
Unemployment Rate	5.6	6.3	8.5	8.4	7.0
Employment Rate Index*	106.3	105.2	102.8	103.6	106.4
% Change	1.0	-1.1	-2.2	.8	2.7
Relative to U.S. Index*	101.2	100.6	100.5	100.8	101.3
Rate of Wage Change	8.4	8.5	7.3	6.2	6.4
Wage Index Rel. to U.S.*	93.2	92.6	92.7	92.5	92.5
Avg. Weekly Hours in Mfg.	39.8	40.1	39.7	40.1	40.3
Rate of Price Inflation	12.7	11.1	3.5	6.6	6.7
Relative to U.S. CPI*	96.0	96.7	94.2	93.9	94.1
Personal Income (mil$)	58190	64420	69719	75570	82520
% Change	12.6	10.7	8.2	8.4	9.2
Disposable Income (mil$)	47849	52664	57573	62811	68642
% Change	11.2	10.1	9.3	9.1	9.3
Real Per Cap. D.I. Index*	106.2	105.3	110.9	113.1	115.2
Relative to U.S.*	104.5	104.3	108.6	108.9	108.5
Rel. Business Cost Index*	95.9	95.3	95.2	95.2	95.3
Manufacturing*	95.8	94.8	94.5	94.5	94.5
Non-Manufacturing*	95.9	95.6	95.5	95.5	95.7

*Indexes equal 100 in calendar 1973.

82/07/26

JULY CONTROL FORECAST (T)

EMPLOYMENT IN MASSACHUSETTS--INDUSTRY DETAIL
(Thousands of People)

	1980	1981	1982	1983	1984
Manufacturing	674.9	666.8	638.7	642.6	664.3
As % of U.S.	3.33	3.31	3.35	3.36	3.35
Durables	411.4	409.9	393.1	395.9	413.8
Lumber, Furntr. (24/25)	13.3	13.1	11.8	12.1	12.5
Stone, Clay, etc. (32)	13.1	12.7	12.2	12.5	12.9
Primary Metals (33)	17.5	17.1	15.5	15.5	16.3
Fabricated Metals (34)	53.4	51.0	47.7	47.0	48.4
Non-elec. Machin. (35)	109.6	110.0	103.5	100.0	106.6
Elec. Equipment (36)	110.5	111.3	111.6	117.4	123.2
Transport. Equip. (37)	35.4	33.4	32.7	34.1	36.1
Instruments (38)	58.6	61.3	58.1	57.4	57.7
Nondurables	263.5	256.9	245.6	246.8	250.5
Food (20)	27.4	25.2	25.2	24.7	24.3
Textiles (22)	25.6	24.5	21.9	22.2	22.3
Apparel (23)	39.8	39.3	36.8	35.9	36.0
Paper (26)	28.2	27.1	26.0	26.2	26.7
Printing (27)	44.1	44.9	44.1	43.7	43.7
Chemicals (28)	18.4	18.4	17.8	18.1	18.6
Rubber (30)	30.6	29.1	28.5	29.6	31.2
Leather (31)	21.4	20.7	19.0	19.7	20.2
Other Nondurables (39)	28.0	27.6	26.1	26.6	27.5
Nonmanufacturing	1977.6	1987.5	1984.5	2016.2	2081.1
Contract Construction	77.6	78.5	79.1	78.9	85.4
Transport & Utilities	121.6	119.8	117.8	116.1	116.8
Wholesale & Retail Trade	574.4	575.0	579.9	592.9	610.4
Finance, Insurance, etc.	159.0	164.0	167.1	170.9	177.3
Services & Miscellaneous	634.4	663.6	673.4	694.1	725.7
Government	410.5	386.7	367.3	363.2	365.5
Federal	58.3	57.4	55.8	55.9	57.0
State	97.8	96.8	95.0	93.8	93.2
Local	254.4	232.5	216.5	213.6	215.2
Nonag. Wage & Sal. Employ.*	2652.5	2654.3	2623.2	2658.9	2745.4
As % of U.S.	2.93	2.91	2.91	2.91	2.91

*EMPLOYMENT REVIEW Concept.

82/07/26

JULY CONTROL FORECAST (T)

MASSACHUSETTS EMPLOYMENT, POPULATION, AND LABOR FORCE
(Thousands of People)

	1980	1981	1982	1983	1984
Nonag. Wage & Sal. Employ.*	2652.5	2654.3	2623.2	2658.9	2745.4
Plus: All Other Nonag.	163.8	162.7	169.3	174.0	180.6
Plus: Agriculture	27.3	25.7	27.4	29.1	29.1
Total Mass. Jobs	2843.6	2842.7	2819.9	2862.0	2955.1
Less: Adjustments**	129.9	70.4	63.9	62.1	62.1
Total Employment***	2713.7	2772.3	2756.0	2799.9	2893.0
As % of U.S.	2.73	2.76	2.76	2.74	2.75
Mass. Population	5737.0	5731.1	5743.9	5770.1	5801.5
As % of U.S.	2.58	2.55	2.53	2.52	2.51
Mass. Popuin. 16 and Over	4386.6	4437.7	4486.5	4512.0	4536.9
Mass. Employment Rate****	60.5	59.8	58.5	58.9	60.5
Indexed to 1973	106.3	105.2	102.8	103.6	106.4
U.S. Employment Rate	53.6	53.4	52.2	52.5	53.6
Mass. Index Rel. To U.S.	101.2	100.6	100.5	100.8	101.3
Labor Force	2875.2	2960.4	3013.0	3057.8	3109.8
Participation Rate	65.5	66.7	67.2	67.8	68.5
U.S. Participation Rate	63.5	63.7	63.6	64.1	64.8
Number of Unemployed	161.5	188.1	257.0	257.9	216.8
Unemployment Rate	5.6	6.3	8.5	8.4	7.0
U.S. Unemployment Rate	7.2	7.6	9.2	8.8	8.0

*EMPLOYMENT REVIEW concept.
**Adjustments for double counting and place of residence.
***MASSACHUSETTS TRENDS concept.
****Total employment divided by the population sixteen and over.

82/07/26

JULY CONTROL FORECAST (T)

MANUFACTURING EMPLOYMENT IN MASSACHUSETTS
(Thousands of People)

	1980	1981	1982	1983	1984
Manufacturing	674.9	666.8	638.7	642.6	664.3
As % of U.S.	3.33	3.31	3.35	3.36	3.35
Durables	411.4	409.9	393.1	395.9	413.8
Lumber, Furniture (24/25)	13.3	13.1	11.8	12.1	12.5
Stone, Clay, Glass (32)	13.1	12.7	12.2	12.5	12.9
Primary Metals (33)	17.5	17.1	15.5	15.5	16.3
Fabricated Metals (34)	53.4	51.0	47.7	47.0	48.4
Non-elec. Machin. (35)	109.6	110.0	103.5	100.0	106.6
Engines & Turbines (351)	6.5	6.3	5.9	6.2	7.1
Metalworking Mach. (354)	17.7	17.0	14.5	13.8	14.8
Spec. Industry M. (355)	16.9	16.2	14.2	13.6	14.3
Gen. Industrial M. (356)	9.7	9.0	8.6	8.6	9.2
Off. & Comput. M. (357)	46.2	49.4	49.3	47.2	49.6
Rest of Industry	12.6	12.0	11.0	10.6	11.4
Elec. Equipment (36)	110.5	111.3	111.6	117.4	123.2
Electronic Compon. (367)	48.9	49.9	52.3	57.0	61.2
Rest of Industry	61.7	61.4	59.3	60.4	62.0
Transport. Equip. (37)	35.4	33.4	32.7	34.1	36.1
Mot. Vehicles & P. (371)	6.3	5.1	3.8	4.1	4.5
Aircraft & Parts (372)	10.6	10.7	10.8	10.8	11.3
Rest of Industry	18.5	17.6	18.2	19.2	20.3
Instruments (38)	58.6	61.3	58.1	57.4	57.7
Meas. & Control (382)	20.3	23.0	22.2	22.5	23.1
Rest of Industry	38.3	38.3	35.8	34.9	34.7
Nondurables	263.5	256.9	245.6	246.8	250.5
Food (20)	27.4	25.2	25.2	24.7	24.3
Textiles (22)	25.6	24.5	21.9	22.2	22.3
Apparel (23)	39.8	39.3	36.8	35.9	36.0
Paper (26)	28.2	27.1	26.0	26.2	26.7
Printing (27)	44.1	44.9	44.1	43.7	43.7
Chemicals (28)	18.4	18.4	17.8	18.1	18.6
Synthet. Materials (282)	5.7	5.5	5.4	5.8	6.1
Rest of Industry	12.7	12.9	12.5	12.4	12.5
Rubber (30)	30.6	29.1	28.5	29.6	31.2
Leather (31)	21.4	20.7	19.0	19.7	20.2
Other Nondurables (39)	28.0	27.6	26.1	26.6	27.5

82/07/26

JULY CONTROL FORECAST (T)

MANUFACTURING EMPLOYMENT IN MASSACHUSETTS
(AS A PER CENT OF U.S. EMPLOYMENT)

	1980	1981	1982	1983	1984
Manufacturing	3.33	3.31	3.35	3.36	3.35
Durables	3.38	3.38	3.48	3.48	3.47
Lumber (24)	.75	.80	.80	.79	.79
Furniture (25)	1.74	1.66	1.54	1.53	1.52
Stone, Clay, Glass (32)	1.98	2.00	2.09	2.09	2.07
Primary Metals (33)	1.53	1.53	1.62	1.62	1.61
Fabricated Metals (34)	3.31	3.20	3.25	3.24	3.21
Non-elec. Machin. (35)	4.39	4.39	4.45	4.41	4.34
Engines & Turbines (351)	4.82	4.74	5.04	5.10	5.09
Metalworking Mach. (354)	4.76	4.71	4.45	4.30	4.23
Spec. Industry M. (355)	8.10	8.00	7.95	7.85	7.71
Gen. Industrial M. (356)	3.00	2.86	2.70	2.68	2.67
Off. & Comput. M. (357)	10.76	10.89	11.03	11.00	10.78
Rest of Industry Group	1.23	1.15	1.17	1.18	1.17
Elec. Equipment (36)	5.29	5.32	5.48	5.62	5.65
Electronic Compon. (367)	8.74	8.67	9.53	9.81	9.78
Rest of Industry Group	4.03	4.05	3.99	4.01	3.99
Transport. Equip. (37)	1.86	1.77	1.85	1.89	1.92
Mot. Vehicles & P. (371)	.80	.65	.54	.55	.57
Aircraft & Parts (372)	1.62	1.64	1.83	1.94	1.99
Rest of Industry Group	4.03	3.85	3.77	3.84	3.87
Instruments (38)	8.24	8.43	8.18	8.23	8.25
Meas. & Control (382)	8.38	9.33	9.46	9.70	9.81
Rest of Industry Group	8.16	7.97	7.54	7.50	7.46
Nondurables	3.25	3.19	3.16	3.17	3.18
Food (20)	1.60	1.51	1.53	1.50	1.48
Textiles (22)	3.01	2.98	2.85	2.84	2.83
Apparel (23)	3.15	3.16	3.19	3.20	3.20
Paper (26)	4.07	3.94	3.92	3.90	3.88
Printing (27)	3.52	3.55	3.47	3.43	3.40
Chemicals (28)	1.66	1.66	1.66	1.69	1.70
Synthet. Materials (282)	2.78	2.78	2.71	2.75	2.77
Rest of Industry Group	1.40	1.42	1.42	1.43	1.43
Rubber (30)	4.21	3.96	4.03	4.12	4.21
Leather (31)	9.20	8.88	8.79	8.78	8.76
Other Nondurables (39)	6.71	6.72	6.71	6.81	6.83

82/07/26

JULY CONTROL FORECAST (T)

PERSONAL INCOME IN MASSACHUSETTS
(Millions of Dollars)

	1980	1981	1982	1983	1984
INCOME BY PLACE OF WORK					
Wage & Sal. Disbursements	36890	40322	42510	45790	50338
Other Labor Income	3737	4154	4623	5243	6027
Proprietors' Income	2459	2564	2572	2786	3126
Total Labor & Propr. Inc.	43086	47039	49706	53819	59491
Breakdown by Industry:					
Farm	115	91	91	102	110
Manufacturing	12755	13979	14357	15617	17403
Durables	8953	9899	10145	11016	12388
Nondurables	3803	4080	4212	4602	5015
Construction	1619	1751	1847	1975	2277
Trade	6911	7598	8191	8916	9809
Finance,Ins.,& R.E.	2819	3167	3471	3787	4197
Transportation & Util.	2803	3050	3302	3504	3796
Services & Misc.	9754	10910	11840	12979	14481
Government	6312	6493	6607	6938	7418
Federal	1438	1563	1635	1714	1826
State & Local	4874	4930	4972	5223	5592
DERIVATION OF PERSONAL INCOME BY PLACE OF RESIDENCE					
Total L&P, Place of Work	43086	47039	49706	53819	59491
Less: Soc. Insr. Contr.	2180	2564	2812	3054	3346
Plus: Residence Adjmt.	-283	-308	-344	-372	-400
Plus: Div.,Int., & Rent	9299	10955	12382	13598	14753
Plus: Transfer Payments	8269	9298	10787	11578	12022
State Unempl. Benefits	332	356	461	490	438
All Other Transfers	7937	8942	10326	11088	11584
Personal Inc., Pl of Res.	58190	64420	69719	75570	82520
Less: Fed. Income Tax	7430	8493	8584	8874	9583
Less: Mass. Income Tax	1975	2202	2379	2597	2834
Less: Other Mass. Taxes	937	1061	1183	1283	1412
Dispos. P.I., Pl of Res.	47849	52664	57573	62811	68642
Boston CPI, 1967 = 100	240.0	266.6	276.0	294.0	313.7
Real D.P.I., '67 Dollars	19939	19755	20859	21356	21877
Real D.P.I., Per Capita	3.476	3.447	3.631	3.701	3.771
% Cnange	-1.2	-.8	5.3	1.9	1.9

82/07/26

JULY CONTROL FORECAST (T)

SUMMARY REPORT
MASSACHUSETTS EARNED FAMILY INCOME DISTRIBUTION MODEL
OF ANNUALIZED WORKING-PERIOD EARNINGS

	1980	1981	1982	1983	1984
Per Cent of Families with Female Head	17.50	18.15	18.79	19.43	20.06
Per Cent of Named Group without Earnings					
All Families	9.16	9.36	10.08	10.19	9.62
Male Headed Fams.	4.83	5.02	5.51	5.57	5.29
Female Headed Fams.	29.59	28.93	29.82	29.32	26.87
No. of Families (000)	1307.4	1311.9	1318.5	1325.6	1333.6
With Earnings	1187.7	1189.1	1185.6	1190.6	1205.3
Without Earnings	119.8	122.8	132.9	135.0	128.3
Average Earnings of All Families					
In Nominal Dollars	25515	27794	28923	30551	33349
In 1972 Dollars	13515	13253	13436	13423	13729
Average Earnings of Those with Earnings					
In Nominal Dollars	28088	30665	32167	34015	36896
In 1972 Dollars	14878	14622	14942	14946	15189
Total Earnings (mil $)	33360	36464	38136	40501	44474
As % of WSD	90.43	90.43	90.43	90.43	90.43
Displaced Log-Normal Parameters (Families with Earnings)					
Gini Coefficient	.3253	.3276	.3319	.3345	.3349
Displacement	.4771	.5198	.6357	.6502	.5808
Standard Deviation	.3945	.3862	.3629	.3624	.3792
Mean -- Nom. $ Dist.	10.55	10.67	10.80	10.87	10.90
Mean -- 1972 $ Dist.	9.92	9.93	10.04	10.05	10.01
EXPLANATORY VARIABLES					
Population 18 thru 64	3511.8	3523.8	3541.5	3560.7	3582.0
Tot. Nonag. Employment	2652.5	2654.3	2623.2	2658.9	2745.4
M & R Emp. (% of Tot.)	30.03	29.64	28.95	28.55	28.49
Female Employment	1096.1	1107.8	1102.7	1114.7	1152.8
As % of Popul. 18-64	31.21	31.44	31.14	31.30	32.18
No. Employed per Fam.	0.000	0.000	0.000	0.000	0.000
Unemployment Rate	5.6	6.3	8.5	8.4	7.0
Wage/Sal Disbursements	36890	40322	42510	45790	50338
WSD per Employee	13.908	15.193	16.068	16.969	18.043
Wage Acceleration	NA	NA	NA	NA	NA
C.P.I. (Boston)	240.0	266.6	276.0	294.0	313.7

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JULY CONTROL FORECAST (T)

PER CENT OF MASSACHUSETTS FAMILIES
WITH EARNED FAMILY INCOME IN GIVEN NOMINAL DOLLAR CLASSES
(MEFID MODEL OF ANNUALIZED WORKING-PERIOD EARNINGS)

	1980	1981	1982	1983	1984
EARNINGS CLASS: (Nominal Dollars)					
$0	9.16	9.36	10.08	10.19	9.62
1 and over	90.84	90.64	89.92	89.81	90.38
$1 - 999	.59	.68	.98	1.05	.89
1000 - 1999	.35	.34	.38	.37	.31
2000 - 2999	.48	.44	.47	.45	.39
3000 - 3999	.63	.56	.57	.54	.46
4000 - 4999	.79	.70	.68	.64	.55
5000 - 5999	.97	.84	.80	.74	.64
6000 - 6999	1.16	.98	.92	.85	.73
7000 - 7999	1.34	1.14	1.04	.95	.83
8000 - 8999	1.53	1.29	1.17	1.06	.93
9000 - 9999	1.71	1.43	1.29	1.17	1.02
10000 - 10999	1.87	1.57	1.41	1.27	1.12
11000 - 11999	2.03	1.71	1.52	1.38	1.21
12000 - 12999	2.16	1.83	1.62	1.47	1.30
13000 - 13999	2.28	1.94	1.72	1.56	1.39
14000 - 14999	2.38	2.04	1.81	1.64	1.47
15000 - 19999	12.70	11.15	10.01	9.16	8.29
20000 - 24999	12.55	11.57	10.67	9.96	9.23
25000 - 34999	20.06	19.99	19.39	18.80	18.14
35000 - 49999	16.02	17.98	18.89	19.56	20.30
50000 and over	9.25	12.46	14.57	17.19	21.19
20000 and over	57.88	62.01	63.53	65.51	68.86
$0 - 1000	9.75	10.04	11.06	11.24	10.51
0 - 2000	10.10	10.38	11.44	11.60	10.82
0 - 4000	11.20	11.39	12.48	12.59	11.67
0 - 6000	12.97	12.92	13.96	13.97	12.86
0 - 9000	17.00	16.32	17.10	16.83	15.35
0 - 12000	22.60	21.04	21.31	20.65	18.71
0 - 15000	29.42	26.84	26.46	25.32	22.86
0 - 20000	42.12	37.99	36.47	34.49	31.14
0 - 25000	54.67	49.56	47.14	44.45	40.38
0 - 35000	74.73	69.55	66.54	63.25	58.51
0 - 50000	90.75	87.54	85.43	82.81	78.81

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JULY CONTROL FORECAST (T)

SUMMARY REPORT
MASSACHUSETTS ECONOMIC POLICY ANALYSIS MODEL
(Seasonally Adjusted Annual Rates, Units as Indicated)

	1981:3	1981:4	1982:1	1982:2	1982:3	1982:4
Employment--Nonag. W. & S.	2623	2656	2645	2621	2611	2615
% Change	-6.0	5.2	-1.7	-3.6	-1.5	.6
Manufacturing	664	665	648	642	633	631
% Change	-3.6	.1	-9.4	-3.8	-5.6	-1.2
Non-Manufacturing	1959	1992	1997	1979	1978	1984
% Change	-6.8	7.0	1.0	-3.5	-.2	1.2
Unemployment Rate	6.6	7.2	7.3	8.7	9.0	9.1
Employment Rate Index*	103.8	104.8	104.0	102.8	102.3	102.3
% Change	-7.1	4.0	-3.2	-4.6	-1.9	.2
Relative to U.S. Index*	99.1	100.8	100.9	100.5	100.3	100.3
Rate of Wage Change	4.6	6.8	8.5	6.5	7.8	7.6
Wage Index Rel. to U.S.*	92.3	92.2	92.7	92.8	92.7	92.6
Avg. Weekly Hours in Mfg.	40.0	40.1	39.6	39.7	39.7	39.8
Rate of Price Inflation	8.9	6.1	-2.4	.9	7.6	6.4
Relative to U.S. CPI*	96.4	96.0	94.7	94.0	94.0	94.0
Personal Income (mil$)	65170	66550	67682	68908	70425	71860
% Change	8.9	8.7	7.0	7.4	9.1	8.4
Disposable Income (mil$)	53109	54499	55566	56495	58577	59653
% Change	7.7	10.9	8.1	6.9	15.6	7.6
Real Per Cap. D.I. Index*	105.1	106.2	108.8	110.3	112.2	112.4
Relative to U.S.*	104.3	105.2	107.7	108.9	108.9	108.8
Rel. Business Cost Index*	95.3	95.1	95.1	95.2	95.2	95.2
Manufacturing*	94.6	94.3	94.5	94.5	94.5	94.5
Non-Manufacturing*	95.7	95.5	95.4	95.6	95.6	95.6

*Indexes equal 100 in calendar 1973.

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JULY CONTROL FORECAST (T)

SUMMARY REPORT
MASSACHUSETTS ECONOMIC POLICY ANALYSIS MODEL
(Seasonally Adjusted Annual Rates, Units as Indicated)

	1983:1	1983:2	1983:3	1983:4	1984:1	1984:2
Employment--Nonag. W. & S.	2626	2644	2671	2695	2716	2736
% Change	1.6	2.8	4.2	3.5	3.2	3.0
Manufacturing	633	638	646	653	658	662
% Change	1.3	3.5	4.9	4.3	3.3	2.6
Non-Manufacturing	1993	2005	2025	2042	2057	2073
% Change	1.8	2.6	4.0	3.3	3.1	3.2
Unemployment Rate	8.9	8.5	8.2	8.0	7.6	7.2
Employment Rate Index*	102.6	103.1	104.0	104.8	105.5	106.1
% Change	1.1	2.2	3.5	2.9	2.6	2.5
Relative to U.S. Index*	100.5	100.6	101.0	101.2	101.3	101.3
Rate of Wage Change	5.0	5.1	6.3	6.7	5.2	7.3
Wage Index Rel. to U.S.*	92.5	92.5	92.5	92.5	92.5	92.5
Avg. Weekly Hours in Mfg.	39.9	40.1	40.2	40.3	40.3	40.3
Rate of Price Inflation	7.9	6.3	6.3	6.8	7.2	6.6
Relative to U.S. CPI*	94.0	93.9	93.9	94.0	94.0	94.1
Personal Income (mil$)	73143	74469	76408	78259	79873	81541
% Change	7.3	7.5	10.8	10.0	8.5	8.6
Disposable Income (mil$)	60526	61534	63891	65293	66650	67894
% Change	6.0	6.8	16.2	9.1	8.6	7.7
Real Per Cap. D.I. Index*	111.8	111.8	114.1	114.6	114.8	114.9
Relative to U.S.*	108.7	108.8	109.0	108.9	108.8	108.6
Rel. Business Cost Index*	95.2	95.2	95.2	95.3	95.3	95.3
Manufacturing*	94.4	94.4	94.5	94.5	94.5	94.5
Non-Manufacturing*	95.5	95.5	95.6	95.6	95.6	95.7

*Indexes equal 100 in calendar 1973.

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JULY CONTROL FORECAST (T)

EMPLOYMENT IN MASSACHUSETTS--INDUSTRY DETAIL
(Thousands of People, Seasonally Adjusted)

	1982:1	1982:2	1982:3	1982:4	1983:1	1983:2
Manufacturing	648.5	642.2	633.0	631.1	633.1	638.5
As % of U.S.	3.34	3.36	3.35	3.34	3.35	3.36
Durables	399.1	396.5	389.3	387.3	388.4	392.3
Lumber, Furntr. (24/25)	12.0	11.8	11.7	11.7	11.8	12.0
Stone, Clay, etc. (32)	12.3	12.3	12.1	12.1	12.2	12.4
Primary Metals (33)	16.3	15.7	15.1	15.0	15.1	15.3
Fabricated Metals (34)	49.3	47.9	46.9	46.7	46.4	46.6
Non-elec. Macnin. (35)	107.6	105.6	101.8	99.0	98.0	98.7
Elec. Equipment (36)	111.0	111.8	111.0	112.5	114.3	116.3
Transport. Equip. (37)	31.6	33.3	32.9	32.9	33.3	33.7
Instruments (38)	59.0	58.1	57.7	57.4	57.3	57.3
Nondurables	249.4	245.7	243.7	243.8	244.7	246.2
Food (20)	25.6	25.3	25.1	24.9	24.8	24.7
Textiles (22)	22.3	21.8	21.8	21.9	22.1	22.2
Apparel (23)	37.7	37.2	36.3	36.0	35.9	35.9
Paper (26)	26.3	26.1	25.9	25.9	26.0	26.1
Printing (27)	45.2	43.9	43.7	43.7	43.7	43.7
Chemicals (28)	18.2	17.8	17.7	17.8	17.9	18.1
Rubber (30)	28.6	28.4	28.4	28.7	28.9	29.3
Leather (31)	19.1	19.0	18.9	19.0	19.3	19.6
Other Nondurables (39)	26.5	26.2	25.9	25.9	26.2	26.6
Nonmanufacturing	1996.8	1979.1	1978.1	1984.1	1992.7	2005.4
Contract Construction	82.3	79.2	77.5	77.3	77.5	78.1
Transpor. & Utilities	118.1	118.9	117.4	116.6	116.0	115.9
Wholesale & Retail Trade	583.6	577.4	577.8	580.8	585.0	590.0
Finance, Insurance, etc.	165.8	167.6	167.5	167.7	168.5	169.8
Services & Miscellaneous	674.7	670.2	672.1	676.5	682.2	689.3
Government	372.5	365.8	365.8	365.0	363.5	362.4
Federal	56.7	55.6	55.3	55.5	55.6	55.8
State	94.7	95.2	95.1	94.8	94.3	93.9
Local	221.1	214.9	215.4	214.8	213.5	212.7
Nonag. Wage & Sal. Employ.*	2645.3	2621.3	2611.1	2615.1	2625.8	2643.9
As % of U.S.	2.93	2.91	2.90	2.90	2.90	2.90

*EMPLOYMENT REVIEW Concept.

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JULY CONTROL FORECAST (T)

MASSACHUSETTS EMPLOYMENT, POPULATION, AND LABOR FORCE
(Thousands of People, Seasonally Adjusted)

	1982:1	1982:2	1982:3	1982:4	1983:1	1983:2
Nonag. Wage & Sal. Employ.*	2645.3	2621.3	2611.1	2615.1	2625.8	2643.9
Plus: All Other Nonag.	166.2	170.6	169.9	170.4	171.4	173.0
Plus: Agriculture	25.1	26.4	29.1	29.1	29.1	29.1
Total Mass. Jobs	2836.6	2818.3	2810.1	2814.7	2826.3	2846.0
Less: Adjustments**	69.3	62.1	62.1	62.1	62.1	62.1
Total Employment***	2767.3	2756.2	2748.0	2752.6	2764.2	2783.9
As % of U.S.	2.78	2.78	2.76	2.74	2.74	2.74
Mass. Population	5737.6	5741.2	5745.9	5750.9	5757.6	5765.2
As % of U.S.	2.54	2.54	2.53	2.53	2.53	2.52
Mass. Popuin. 16 and Over	4474.0	4486.0	4490.5	4495.3	4501.3	4508.1
Mass. Employment Rate****	59.1	58.4	58.1	58.2	58.3	58.6
Indexed to 1973	104.0	102.8	102.3	102.3	102.6	103.1
U.S. Employment Rate	52.6	52.2	52.0	52.0	52.1	52.3
Mass. Index Rel. To U.S.	100.9	100.5	100.3	100.3	100.5	100.6
Labor Force	2986.7	3017.2	3021.2	3026.9	3034.7	3043.9
Participation Rate	66.8	67.3	67.3	67.3	67.4	67.5
U.S. Participation Rate	63.5	63.6	63.7	63.8	63.9	64.0
Number of Unemployed	219.3	261.0	273.2	274.3	270.5	260.1
Unemployment Rate	7.3	8.7	9.0	9.1	8.9	8.5
U.S. Unemployment Rate	8.8	9.4	9.5	9.3	9.1	8.9

*EMPLOYMENT REVIEW concept.
**Adjustments for double counting and place of residence.
***MASSACHUSETTS TRENDS concept.
****Total employment divided by the population sixteen and over.

Data Resources Summary Table for the U.S. Economy - CONTROL062682

	1982				1983				Years				
	I	II	III	IV	I	II	III	IV	1980	1981	1982	1983	1984
GNP and Its Components Billions of Dollars - SAAR													
Total Consumption	1946.7	1966.9	2018.8	2067.4	2111.1	2156.3	2212.0	2256.8	1672.7	1857.8	2000.0	2184.0	2397.6
Nonres. Fixed Investment	338.4	327.6	309.9	308.4	316.9	328.4	343.5	354.7	295.9	328.8	321.0	335.9	387.8
Res. Fixed Investment	92.2	99.1	105.7	112.9	117.6	126.7	136.1	144.3	105.3	105.5	102.5	131.2	162.8
Inventory Investment	-36.8	-17.5	0.7	7.0	15.2	14.2	14.5	25.1	-5.9	16.2	-11.7	17.3	29.4
Net Exports	31.5	38.1	35.3	30.9	28.2	26.6	26.0	28.0	23.3	26.0	33.9	27.2	23.5
Federal Purchases	253.6	253.3	254.7	264.9	269.2	273.3	278.5	289.0	198.9	230.2	256.6	277.5	307.0
State and Local Govt. Purchases	372.8	373.9	379.7	385.6	390.2	396.0	400.3	404.8	335.8	361.0	378.0	397.8	425.5
Gross National Product	2998.4	3041.5	3104.8	3176.9	3248.4	3321.4	3411.0	3502.7	2626.1	2925.5	3080.4	3370.9	3733.6
Real GNP (1972 Dollars)	1484.5	1485.6	1493.8	1506.1	1514.2	1525.8	1543.5	1558.7	1480.7	1510.3	1492.5	1535.6	1600.1
Prices and Wages - Annual Rates of Change													
Implicit Price Deflator	3.8	5.5	6.2	6.1	7.0	6.0	6.2	6.9	9.0	9.2	6.5	6.4	6.3
CPI - All Urban Consumers	3.2	4.3	7.6	6.2	8.0	6.5	6.4	6.4	13.5	10.3	6.3	6.8	6.5
Producer Price Index - Finished Goods	2.5	0.2	5.6	5.7	6.4	5.9	6.1	6.5	13.5	9.3	3.8	5.7	7.0
Compensation per Hour	8.1	6.6	6.9	7.4	7.3	7.5	7.8	7.7	9.9	10.0	7.5	7.3	7.8
Core Inflation	8.2	7.8	7 5	7.2	6 9	6.8	6.7	6.7	9.3	8.9	7 7	6.8	6.7
Production and Other Key Measures													
Industrial Production (1967=1.000)	1.418	1.405	1.410	1.439	1.455	1.491	1.530	1.553	1.470	1.509	1.418	1.507	1.614
Annual Rate of Change	-11.7	-3.5	1.5	8.3	4.7	10.2	11.0	6.0	-3.6	2.6	-6.0	6.3	7.1
Housing Starts (Mil. Units)	0.920	0.983	1.070	1.181	1.181	1.316	1.405	1.454	1.298	1.100	1.039	1.339	1.609
Retail Unit Car Sales (Mil. Units)	8.2	7.7	8.4	8.9	8.7	9.2	9.8	9.9	9.0	8.6	8.3	9.4	10.4
Unemployment Rate (%)	8.8	9.4	9.5	9.3	9.1	8.9	8.7	8.5	7.2	7.6	9.2	8.8	8.0
Federal Budget Surplus (NIA)	-123.5	-126.8	-158.9	-151.4	-123.8	-115.4	-139.8	-129.6	-61.2	-62.4	-140.2	-127.2	-114.8
Money and Interest Rates													
Money Supply (M-1)	448.0	453.3	457.9	464.0	468.5	474.3	479.4	488.1	415.8	436.7	464.0	488.1	511.0
Annual Rate of Change	10.7	4.8	4.1	5.4	3.9	5.1	4.4	7.5	7.3	5.0	6.2	5.2	4.7
New AA Corp. Utility Rate (%)	16.78	15.99	15.35	14.81	15.13	14.46	12.98	13.16	13.14	16.25	15.73	13.93	12.47
New High-Grade Corp. Bond Rate (%)	15.25	15.01	14.52	14.06	14.40	13.77	12.35	12.55	12.47	15.01	14.71	13.27	11.91
Federal Funds Rate (%)	14.23	14.45	13.49	13.03	14.49	13.21	12.88	13.43	13.36	16.38	13.80	13.51	12.07
Prime Rate (%)	16.27	16.42	16.26	15.13	16.00	15.28	14.86	15.14	15.27	18.87	16.02	15.32	14.08
Incomes - Billions of Dollars													
Personal Income	2511.2	2553.5	2616.8	2677.1	2728.8	2781.2	2853.0	2924.0	2160.3	2404.1	2589 6	2821.8	3097.9
Real Disposable Income (%Ch)	0.0	2.5	8.8	2.6	-1.2	1.2	9.2	3.5	0.7	2.2	2.4	2.9	3.6
Saving Rate (%)	5.4	5.8	6.9	6.6	6.1	5.8	6.8	7 1	5.6	5.3	6.2	6.5	6.6
Profits Before Tax	171.8	164.9	172.0	176.0	179.4	192.1	205.5	215.6	245.5	233.3	171.2	198.1	242.0
Profits After Tax	118.1	112.2	114.9	117.2	120.8	129.0	137.8	144.3	163.2	155.6	115.6	133.0	163.1
Company Profits	90.5	86.0	101.4	100.4	103.8	106.6	110.3	115.1	104.6	106.7	94.6	108.9	126 9
Four-Qtr. Percent Change	-16.7	-20.6	-3.6	-4.2	14.7	24.0	8.8	14.7	-1.6	2.0	-11.4	15.2	16.5
Composition of Real GNP - Annual Rates of Change													
Gross National Product	-3.7	0.3	2.2	3.3	2.1	3.1	4.7	4.0	-0.2	2.0	-1.2	2.9	4.2
Final Sales	2.0	-2.1	0.0	2.6	1.2	3.3	4.8	2.8	0.7	1.3	-0.3	2.0	4.0
Total Consumption	3.4	0.6	3.9	3.7	0.6	2.5	4.5	2.4	0.5	2.5	1.5	2.6	3.5
Nonres. Fixed Investment	0.7	-16.5	-23.9	-5.5	6.7	9.6	13.5	6.5	-3.0	2.5	-6.4	-0.4	8.4
Equipment	1.5	-18.8	-23.6	1.2	12.4	14.9	19.1	7.1	-4.2	1.3	-7.6	3.7	10.0
Nonres. Construction	-0.5	-11.9	-24.3	-18.1	-5.1	-1.8	1.0	4.9	-0.1	5.4	-4.0	-9.0	4.4
Res. Fixed Investment	-9.8	27.5	21.9	21.7	10.2	25.2	22.9	17.0	-18.6	-6.1	-7.6	19.6	14.8
Exports	-12.8	-4.9	3.5	5.0	4.0	5.3	5.8	6.5	9.6	-0.4	-5.4	4.2	5.9
Imports	-17.1	-3.7	4.4	6.9	4.6	5.2	7.3	5.1	-0.1	5.9	-2.1	4.9	5.5
Federal Government	3.8	-5.4	-3.5	2.3	0.7	0.1	1.7	1.3	6.4	3.1	4.1	0.1	2.4
State and Local Governments	-2.2	-5.0	-0.3	-0.4	-2.0	-1.2	-2.7	-2.2	1.0	-0.9	-2.3	-1.6	-0.1

Data Resources Alternative Forecasts of the U.S. Economy

STAGFLATION063082	1982				1983				Years				
	I	II	III	IV	I	II	III	IV	1980	1981	1982	1983	1984
				SAAR									
Real GNP Growth Rates													
Gross National Product.....	-3.7	0.3	3.1	-0.1	-4.9	-1.1	5.7	2.3	-0.2	2.0	-1.3	-0.3	2.0
Total Consumption.....	3.4	0.6	4.3	0.5	-3.3	-0.9	5.7	1.4	0.5	2.5	1.4	0.4	2.0
Nonresidential Fixed Investment....	0.7	-16.5	-11.8	-6.4	-15.4	-3.8	4.5	5.1	-3.0	2.5	-4.8	-7.7	1.9
Residential Fixed Investment.....	-9.8	27.4	4.5	-9.7	-17.9	4.0	16.0	1.2	-18.6	-6.1	-11.2	-2.1	3.4
Total Government.....	0.1	-5.2	-1.6	-2.5	-2.0	0.5	1.9	-2.3	2.9	0.6	-0.1	-1.3	0.3
Unemployment Rate (%).....	8.8	9.4	9.5	9.5	9.9	10.3	10.4	10.1	7.2	7.6	9.3	10.2	10.4
CPI - All Urban Consumers (*1).....	3.2	4.3	8.2	7.3	9.0	7.5	7.3	7.1	13.5	10.3	6.4	7.7	7.2
Producer Price Index - Finished Goods	2.5	0.3	5.8	7.0	7.6	7.4	7.5	8.1	13.5	9.3	3.9	6.8	8.2
Compensation per Hour (*1).....	8.1	6.6	7.8	7.9	6.9	7.1	8.5	8.2	9.9	10.0	7.7	7.5	8.3
Federal Funds Rate (%).....	14.23	14.46	14.69	17.10	19.95	17.03	12.89	14.79	13.36	16.38	15.12	16.17	15.41
New High-Grade Bond Yield (%).....	15.25	15.01	15.96	15.18	17.12	16.39	16.00	15.97	12.47	15.01	15.35	16.37	16.24
Inventory Investment ($Bil.).....	-36.8	-17.7	-0.3	7.1	1.2	-7.8	-3.4	6.3	-5.9	16.2	-11.9	-0.9	1.2
Net Exports ($Bil.).....	31.5	38.1	31.5	29.7	30.2	35.8	37.2	38.4	23.3	26.0	32.7	35.4	39.2
Federal Budget Surplus (NIA, $Bil.)..	-123.5	-126.9	-159.5	-162.0	-156.9	-162.4	-187.1	-183.6	-61.2	-62.4	-143.0	-172.5	-199.2
Profits After Tax (*2).....	-30.2	-26.6	-26.5	-21.5	-12.0	-4.1	1.8	6.1	-2.7	-4.7	-26.4	-2.2	14.5
Real Disposable Income (*1).....	0.0	2.5	9.3	1.4	-4.6	-0.9	9.9	2.2	0.7	2.2	2.4	1.5	2.5
Industrial Production (*1).....	-11.7	-3.5	4.0	1.6	-7.4	2.1	10.0	2.7	-3.6	2.6	-6.1	0.4	3.3
Car Sales (Mil. Units).....	8.2	7.7	8.8	8.6	8.2	7.9	8.8	9.1	9.0	8.6	8.3	8.5	8.9
Housing Starts (Mil. Units).....	0.92	0.98	0.92	0.90	0.88	0.87	0.94	0.93	1.30	1.10	0.93	0.90	0.96

(*1) Annual Rate of Change
(*2) Four-Quarter Percent Change

82/07/26

JULY PESSIMISTIC FORECAST BASED ON DRI'S "STAGFLATION063082"

SUMMARY REPORT
MASSACHUSETTS ECONOMIC POLICY ANALYSIS MODEL
(Units as Indicated)

	1981	1982	1983	1984
Employment--Nonag. W. & S.	2654	2622	2598	2639
% Change	.1	-1.2	-.9	1.6
Manufacturing	667	639	619	619
% Change	-1.2	-4.2	-3.1	.0
Non-Manufacturing	1987	1983	1979	2020
% Change	.5	-.2	-.2	2.1
Unemployment Rate	6.3	8.6	9.8	8.8
Employment Rate Index*	105.2	102.8	101.2	102.3
% Change	-1.1	-2.3	-1.5	1.0
Relative to U.S. Index*	100.6	100.5	101.0	101.5
Rate of Wage Change	8.5	7.2	5.6	6.0
Wage Index Rel. to U.S.*	92.6	92.7	92.5	92.4
Avg. Weekly Hours in Mfg.	40.1	39.7	39.9	40.1
Rate of Price Inflation	11.1	3.7	7.3	7.3
Relative to U.S. CPI*	96.7	94.2	93.9	93.9
Personal Income (mil$)	64420	69769	75023	81361
% Change	10.7	8.3	7.5	8.4
Disposable Income (mil$)	52664	57613	62471	67876
% Change	10.1	9.4	8.4	8.7
Real Per Cap. D.I. Index*	105.3	110.9	111.5	112.3
Relative to U.S.*	104.3	108.6	109.3	109.0
Rel. Business Cost Index*	95.3	95.2	95.1	95.1
Manufacturing*	94.8	94.5	94.4	94.4
Non-Manufacturing*	95.6	95.5	95.5	95.5

*Indexes equal 100 in calendar 1973.

82/07/26

JULY PESSIMISTIC FORECAST BASED ON DRI'S "STAGFLATION063082"

EMPLOYMENT IN MASSACHUSETTS--INDUSTRY DETAIL
(Thousands of People)

	1981	1982	1983	1984
Manufacturing	666.8	638.6	618.9	619.1
As % of U.S.	3.31	3.35	3.38	3.39
Durables	409.9	393.3	380.4	381.3
Lumber, Furntr. (24/25)	13.1	11.8	11.1	10.5
Stone, Clay, etc. (32)	12.7	12.2	11.8	11.6
Primary Metals (33)	17.1	15.5	14.5	14.6
Fabricated Metals (34)	51.0	47.7	43.7	42.0
Non-elec. Machin. (35)	110.0	103.8	97.3	99.7
Elec. Equipment (36)	111.3	111.6	114.0	115.7
Transport. Equip. (37)	33.4	32.6	31.8	31.5
Instruments (38)	61.3	58.1	56.3	55.8
Nondurables	256.9	245.3	238.5	237.7
Food (20)	25.2	25.2	24.3	23.8
Textiles (22)	24.5	21.9	21.0	20.5
Apparel (23)	39.3	36.7	34.2	33.4
Paper (26)	27.1	26.0	25.6	25.9
Printing (27)	44.9	44.1	43.0	42.9
Chemicals (28)	18.4	17.8	17.5	17.6
Rubber (30)	29.1	28.4	28.1	28.7
Leather (31)	20.7	19.0	19.0	19.2
Other Nondurables (39)	27.6	26.1	25.7	25.8
Nonmanufacturing	1987.5	1983.2	1978.9	2020.0
Contract Construction	78.5	78.9	73.4	73.1
Transport & Utilities	119.8	117.6	112.9	111.6
Wholesale & Retail Trade	575.0	579.7	583.5	597.4
Finance, Insurance, etc.	164.0	167.0	167.4	171.5
Services & Miscellaneous	663.6	672.9	679.5	703.3
Government	386.7	367.1	362.1	363.1
Federal	57.4	55.8	55.8	56.9
State	96.8	94.8	94.5	94.2
Local	232.5	216.5	211.8	212.0
Nonag. Wage & Sal. Employ.*	2654.3	2621.8	2597.8	2639.1
As % of U.S.	2.91	2.91	2.91	2.92

*EMPLOYMENT REVIEW Concept.

82/07/26

JULY PESSIMISTIC FORECAST BASED ON DRI'S "STAGFLATION063082"

MASSACHUSETTS EMPLOYMENT, POPULATION, AND LABOR FORCE
(Thousands of People)

	1981	1982	1983	1984
Nonag. Wage & Sal. Employ.*	2654.3	2621.8	2597.8	2639.1
Plus: All Other Nonag.	162.7	169.2	169.6	173.0
Plus: Agriculture	25.7	27.4	29.1	29.1
Total Mass. Jobs	2842.7	2818.5	2796.5	2841.2
Less: Adjustments**	70.4	63.9	62.1	62.1
Total Employment***	2772.3	2754.6	2734.4	2779.1
As % of U.S.	2.76	2.76	2.72	2.72
Mass. Population	5731.1	5744.1	5772.3	5803.9
As % of U.S.	2.55	2.53	2.52	2.51
Mass. Popuin. 16 and Over	4437.7	4486.6	4513.7	4538.8
Mass. Employment Rate****	59.8	58.4	57.6	58.1
Indexed to 1973	105.2	102.8	101.2	102.3
U.S. Employment Rate	53.4	52.2	51.1	51.4
Mass. Index Rel. To U.S.	100.6	100.5	101.0	101.5
Labor Force	2960.4	3013.1	3032.5	3048.8
Participation Rate	66.7	67.2	67.2	67.2
U.S. Participation Rate	63.7	63.6	64.1	64.7
Number of Unemployed	188.1	258.5	298.1	269.7
Unemployment Rate	6.3	8.6	9.8	8.8
U.S. Unemployment Rate	7.6	9.3	10.2	10.4

*EMPLOYMENT REVIEW concept.
**Adjustments for double counting and place of residence.
***MASSACHUSETTS TRENDS concept.
****Total employment divided by the population sixteen and over.

82/07/26

JULY PESSIMISTIC FORECAST BASED ON DRI'S "STAGFLATION063082"

SUMMARY REPORT
MASSACHUSETTS ECONOMIC POLICY ANALYSIS MODEL
(Seasonally Adjusted Annual Rates, Units as Indicated)

	1982:1	1982:2	1982:3	1982:4	1983:1	1983:2
Employment--Nonag. W. & S.	2645	2621	2614	2607	2587	2581
% Change	-1.7	-3.6	-1.1	-1.0	-3.1	-.9
Manufacturing	648	642	634	629	620	615
% Change	-9.4	-3.8	-4.7	-3.2	-5.8	-3.0
Non-Manufacturing	1997	1979	1979	1978	1967	1965
% Change	1.0	-3.5	.1	-.2	-2.3	-.2
Unemployment Rate	7.3	8.7	9.0	9.3	10.1	10.2
Employment Rate Index*	104.0	102.8	102.4	102.0	101.0	100.6
% Change	-3.2	-4.6	-1.5	-1.4	-3.7	-1.5
Relative to U.S. Index*	100.9	100.4	100.3	100.4	100.7	100.9
Rate of Wage Change	8.5	6.5	7.8	6.6	2.8	5.0
Wage Index Rel. to U.S.*	92.7	92.8	92.7	92.6	92.5	92.5
Avg. Weekly Hours in Mfg.	39.6	39.7	39.7	39.8	39.7	39.8
Rate of Price Inflation	-2.4	.9	8.2	7.4	8.8	7.1
Relative to U.S. CPI*	94.7	94.0	94.0	94.0	94.0	93.9
Personal Income (mil$)	67682	68902	70537	71953	72805	73845
% Change	7.0	7.4	9.8	8.3	4.8	5.8
Disposable Income (mil$)	55566	56491	58657	59738	60323	61148
% Change	8.1	6.8	16.2	7.6	4.0	5.6
Real Per Cap. D.I. Index*	108.8	110.3	112.2	112.2	110.7	110.2
Relative to U.S.*	107.7	108.9	108.9	108.9	109.1	109.3
Rel. Business Cost Index*	95.1	95.2	95.2	95.2	95.1	95.1
Manufacturing*	94.5	94.5	94.5	94.4	94.4	94.4
Non-Manufacturing*	95.4	95.6	95.6	95.5	95.5	95.4

*Indexes equal 100 in calendar 1973.

82/07/26

JULY PESSIMISTIC FORECAST BASED ON DRI'S "STAGFLATION063082"

SUMMARY REPORT
MASSACHUSETTS ECONOMIC POLICY ANALYSIS MODEL
(Seasonally Adjusted Annual Rates, Units as Indicated)

	1983:3	1983:4	1984:1	1984:2	1984:3	1984:4
Employment--Nonag. W. & S.	2604	2619	2613	2628	2645	2670
% Change	3.7	2.3	-1.0	2.3	2.6	3.9
Manufacturing	619	621	615	617	619	625
% Cnange	2.4	1.2	-3.5	.7	1.5	4.3
Non-Manufacturing	1985	1998	1997	2011	2026	2045
% Change	4.1	2.7	-.2	2.9	3.0	3.8
Unemployment Rate	9.6	9.4	9.7	9.2	8.7	7.9
Employment Rate Index*	101.4	101.8	101.4	101.9	102.4	103.3
% Change	3.0	1.7	-1.5	1.8	2.1	3.4
Relative to U.S. Index*	101.1	101.3	101.4	101.5	101.5	101.5
Rate of Wage Change	8.0	6.2	3.5	7.5	6.8	6.7
Wage Index Rel. to U.S.*	92.5	92.5	92.5	92.5	92.5	92.3
Avg. Weekly Hours in Mfg.	40.0	40.1	40.0	40.1	40.2	40.3
Rate of Price Inflation	7.0	7.4	7.7	7.2	7.2	7.0
Relative to U.S. CPI*	93.8	93.9	93.9	93.9	93.9	93.9
Personal Income (mil$)	75876	77567	78742	80390	82243	84071
% Change	11.5	9.2	6.2	8.6	9.5	9.2
Disposable Income (mil$)	63566	64846	65895	67131	68561	69916
% Change	16.8	8.3	6.6	7.7	8.8	8.1
Real Per Cap. D.I. Index*	112.4	112.5	112.1	112.1	112.4	112.6
Relative to U.S.*	109.4	109.3	109.3	109.1	109.0	108.7
Rel. Business Cost Index*	95.1	95.2	95.2	95.2	95.2	95.1
Manufacturing*	94.4	94.4	94.4	94.4	94.4	94.3
Non-Manufacturing*	95.5	95.5	95.5	95.5	95.5	95.4

*Indexes equal 100 in calendar 1973.

82/07/27.

THE EFFECT OF PESSIMISTIC NATIONAL INPUTS FROM DRI
(JULY FORECAST BASED ON STAGFLATION063082 MINUS ONE BASED ON CONTROL062682)

SUMMARY REPORT
MASSACHUSETTS ECONOMIC POLICY ANALYSIS MODEL

	1982	1983	1984
Employment--Nonag. W. & S.*	-1.345	-61.102	-106.293
Manufacturing*	-.064	-23.763	-45.197
Non-Manufacturing*	-1.281	-37.339	-61.096
Unemployment Rate (in percentage points)	.049	1.396	1.873
Wage Index **	-.064	-.608	-.932
Boston C.P.I. **	.125	.858	1.424
Personal Income ***	49.923	-546.528	-1159.206
Disposable Income ***	40.222	-340.316	-766.767
Real Per Cap. Disp. Inc. **	-.058	-1.422	-2.543
Rel. Business Cost **	-.013	-.077	-.181
Manufacturing **	-.013	-.072	-.163
Non-Manufacturing **	-.014	-.080	-.189

*Difference in thousands of people.
(i.e. the Alternative minus the Control)
**Difference in per cent.
(i.e. 100*((Alternative-Control)/Control)
***Difference in millions of dollars.
(i.e. Alternative - Control)

82/07/27

THE EFFECT OF PESSIMISTIC NATIONAL INPUTS FROM DRI
(JULY FORECAST BASED ON STAGFLATION063082 MINUS ONE BASED ON CONTROL062682)

EMPLOYMENT IN MASSACHUSETTS--INDUSTRY DETAIL
(Tnousands of People, Seasonally Adjusted)

	1982	1983	1934
Manufacturing	-.064	-23.763	-45.197
Durables	.239	-15.451	-32.481
Lumber (24)	-.010	-.530	-1.078
Furniture (25)	-.005	-.476	-.919
Stone, Clay, etc. (32)	-.033	-.731	-1.383
Primary Metals (33)	-.013	-.975	-1.697
Fabricated Metals (34)	-.025	-3.266	-6.469
Non-elec. Machin. (35)	.326	-2.717	-6.857
Elec. Equipment (36)	.002	-3.430	-7.564
Transport. Equip. (37)	-.045	-2.268	-4.600
Instruments (38)	.042	-1.057	-1.914
Nondurables	-.303	-8.312	-12.716
Food (20)	-.009	-.423	-.562
Textiles (22)	-.062	-1.205	-1.843
Apparel (23)	-.079	-1.649	-2.641
Paper (26)	-.006	-.611	-.765
Printing (27)	-.025	-.692	-.765
Cnemicals (28)	-.021	-.633	-.976
Rubber (30)	-.090	-1.449	-2.461
Leather (31)	-.011	-.702	-1.044
Other Nondurables (39)	-.000	-.947	-1.659
Nonmanufacturing	-1.281	-37.339	-61.096
Contract Construction	-.187	-5.502	-12.273
Transport & Utilities	-.111	-3.189	-5.250
Wnolesale & Retail Trade	-.190	-9.397	-12.989
Finance, Insurance, etc.	-.146	-3.470	-5.806
Services & Miscellaneous	-.448	-14.672	-22.443
Government	-.199	-1.110	-2.335
Federal	-.006	-.055	-.170
State	-.135	.703	1.007
Local	-.058	-1.757	-3.172
Nonag. Wage & Sal. Employ.*	-1.345	-61.102	-106.293

*EMPLOYMENT REVIEW concept.

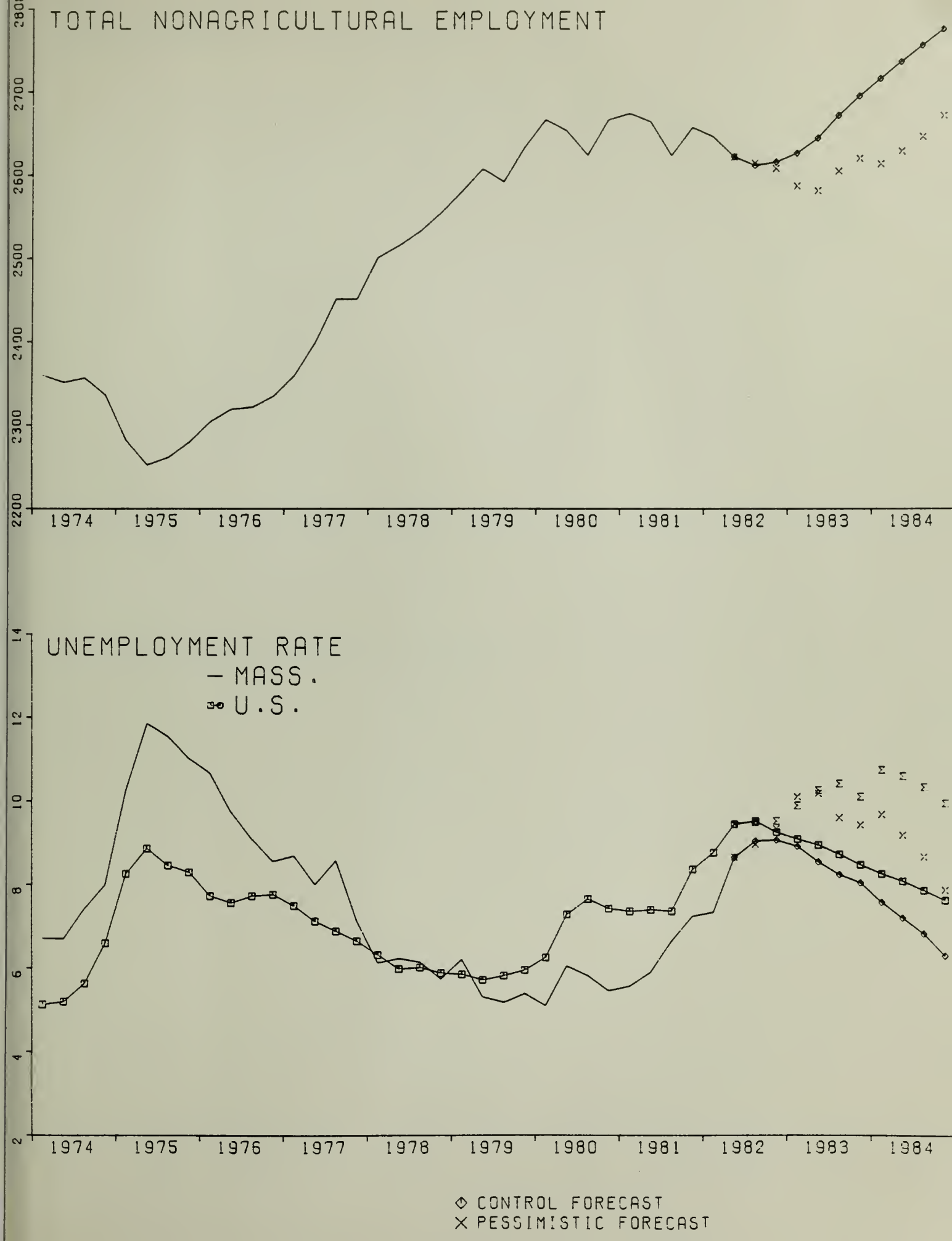
82/07/27

THE EFFECT OF PESSIMISTIC NATIONAL INPUTS FROM DRI
(JULY FORECAST BASED ON STAGFLATION063082 MINUS ONE BASED ON CONTROL062682)

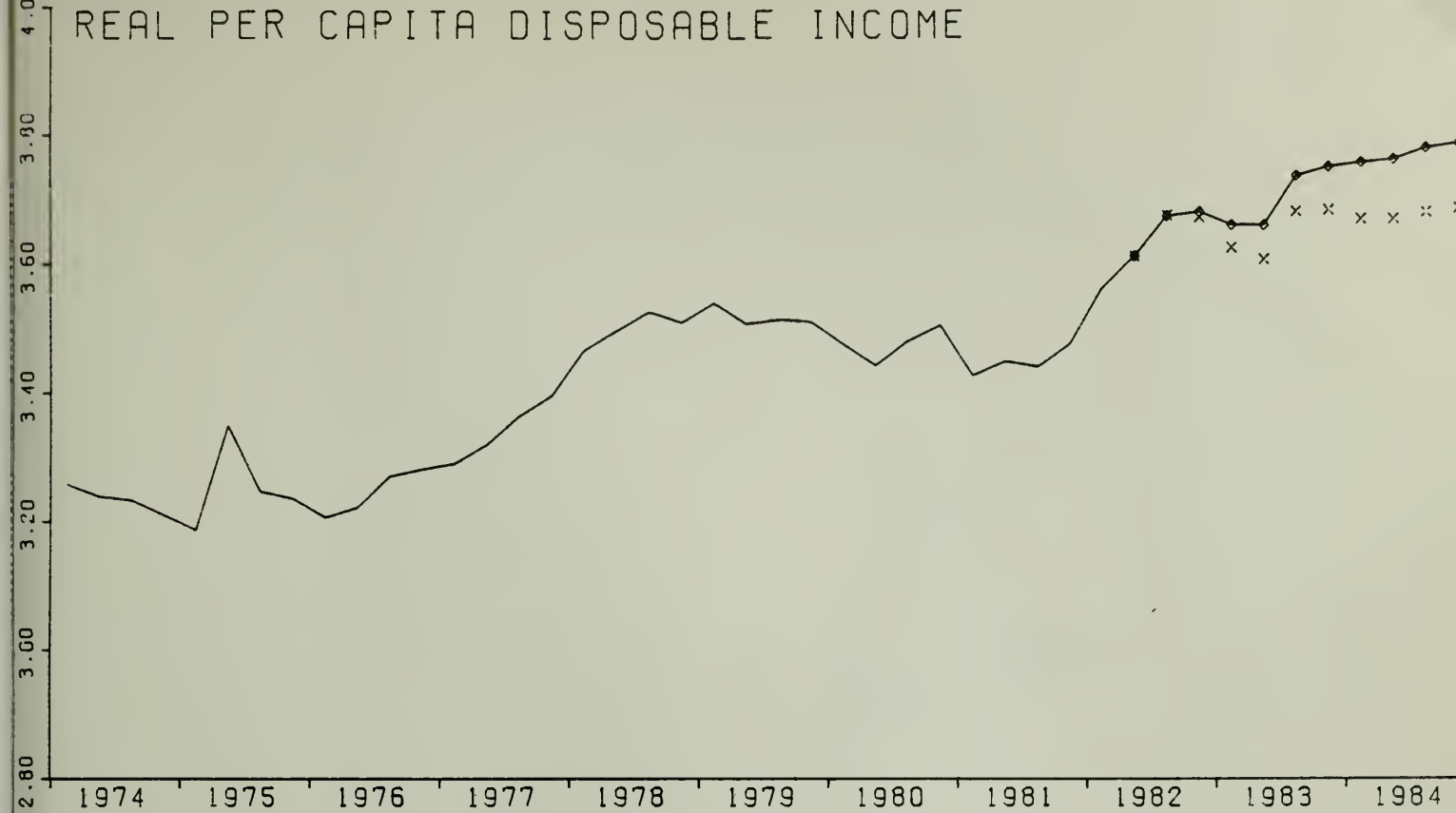
MASSACHUSETTS EMPLOYMENT, POPULATION, AND LABOR FORCE
(Tnousands of People, Seasonally Adjusted)

	1982	1983	1984
Nonag. Wage & Sal. Employ.*	-1.345	-61.102	-106.293
Plus: All Otner Nonag.	-.082	-4.452	-7.629
Plus: Agriculture	0.000	0.000	0.000
Total Mass. Jobs	-1.427	-65.554	-113.922
Less: Adjustments**	0.000	0.000	0.000
Total Employment***	-1.427	-65.554	-113.922
Mass. Population	.154	2.211	2.351
Mass. Populn. 16 and Over	.120	1.729	1.839
Mass. Employment Rate****	-.031	-1.376	-2.366
Indexed to 1973	-.055	-2.420	-4.162
U.S. Employment Rate	-.041	-1.317	-2.200
Labor Force	.070	-25.304	-61.044
Participation Rate	-.000	-.586	-1.373
Number of Unemployed	1.497	40.250	52.878
Unemployment Rate	.049	1.396	1.873

*EMPLOYMENT REVIEW concept.
**Adjustments for double counting and place of residence.
***MASSACHUSETTS TRENDS concept.
****Total employment divided by the population sixteen and over.


TOTAL NONAGRICULTURAL EMPLOYMENT
2800
2700
2600
2500
2400
2300
2200
1974
1975
1976
1977
1978
1979
1980
1981
1982
1983
1984
UNEMPLOYMENT RATE
— MASS.
U.S.
14
12
10
8
6
4
2
1974
1975
1976
1977
1978
1979
1980
1981
1982
1983
1984
◇ CONTROL FORECAST
× PESSIMISTIC FORECAST

MANUFACTURING EMPLOYMENT
570
590
610
630
650
670
690
1974
1975
1976
1977
1978
1979
1980
1981
1982
1983
1984
NONMANUFACTURING EMPLOYMENT
1680
1760
1840
1920
2000
2080
2160
1974
1975
1976
1977
1978
1979
1980
1981
1982
1983
1984
◇ CONTROL FORECAST
× PESSIMISTIC FORECAST



◇ CONTROL FORECAST
× PESSIMISTIC FORECAST

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MEPA OCTOBER 1982

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The October 1982
Massachusetts Economic Policy Analysis (MEPA)
Model Forecast

by

James K. Kindahl, Roy E. Williams, and George I. Treyz*

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*MEPA Project staff, Department of Economics, University of Massachusetts, Amherst, MA 01003 (Tel. 413-545-0915). Support was provided by the Department of Public Welfare, the Division of Employment Security, the Department of Commerce and Development, and Massport. The U.S. forecast used was the Control forecast from Data Resources, Inc. (CONTROL082482)

THE OCTOBER 1982

MASSACHUSETTS ECONOMIC POLICY ANALYSIS (MEPA)

AND

REVENUE ANALYSIS AND FORECASTING (MRAF)

MODEL FORECASTS

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The October 1982 Massachusetts Economic Policy Analysis (MEPA) Model Forecast

by

James K. Kindahl, Roy E. Williams, and George I. Treyz*

The very high rates of unemployment experienced in 1982 are likely to continue through 1982, then fall gradually throughout 1983 and 1984. Even by the end of 1984, the rate will be hardly below 6% - still a high level. This pattern will be essentially a reflection of a gradually improving, but still sluggish, national economy. The DRI forecast for the nation points a picture of a weak recovery; national unemployment rates will fall, though full employment does not seem likely within the next two years. Massachusetts has relatively low dependence on the hardest hit of industries (autos, steel, textiles, heavy industrial equipment, contractors' equipment); its relatively heavy concentration on electronics instruments, and other "high-tech" areas has helped to spare some of the more severe problems which have hit other parts of the country, notably the industrial states of the mid-west.

Until 1982, total employment in Massachusetts had risen every year ever since the recession of 1974-75, rising even in 1981 (by a very small amount); the year 1982 will show the first decline since 1975. The

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*MEPA Project staff, Department of Economics, University of Massachusetts, Amherst, MA 01003 (Tel. 413-545-0915). Support was provided by the Department of Public Welfare, the Division of Employment Security, the Department of Commerce and Development, and Massport. The U.S. forecast used was the Control forecast from Data Resources, Inc. (CONTROL082482)

quarterly figures, even with seasonal adjustment, show a somewhat more erratic pattern. The year 1982 thus far has been one of decline; the forecast is that the decline will be reversed around the end of 1982, and resume a slow upward growth.

Manufacturing employment in Massachusetts has been rising as a percentage of U.S. manufacturing employment since 1976; this relative gain is expected to continue through 1984, though at decreasing rates. This relative gain has occurred largely in durables where the driving forces have been the Office and Computing Machinery group (SIC 357), Electronic Components (367), and Measurement and Control Instruments (382). Within nondurables, only Synthetic Materials (282) and "Other nondurables" (39) show substantial growth.

The older manufacturing industries - notably food processing, textiles, paper, apparel and leather, have continued their relative decline - trends that now are well over a half century old. They have shrunk from their status as dominant industries among U.S. (and world) production to relatively minor segments of U.S. employment; and in recent decades, U.S. production in these industries has shrunk relative both to world production, and to U.S. consumption. The forecast sees no reversal of these trends in the short run.

Manufacturing now accounts for only about 24% of all employment in Massachusetts - roughly the same as for the U.S. In the remaining 76%, recent history has seen slight falls in Massachusetts employment relative to the nation; no strong pattern is visible in any of its components, nor does the forecast call for anything but continuation of this stability.

The net result of all this has been a total employment in Massachusetts which has roughly paralled the U.S. total employment. Over the period since 1976, there has been little net change in share of employment as measured either on an establishment basis or on a household basis.

Massachusetts population has probably increased since the 1980 Census but at a slower rate than that of the U.S. as a whole. The Massachusetts population has thus continued to fall relative to total U.S. population, as it has (with only brief reversals) since 1640, so far as can be judged from available records. The labor force participation rate has continued to rise, roughly parallel with that of the U.S. The result of this combination of stable employment and labor force participation relative to the U.S., and declining relative population (and hence labor force), has led to unemployment rates which have improved relative to the U.S.

In the 1974-75 recession, Massachusetts unemployment was well above that of the nation. By 1979, the Massachusetts unemployment rate had fallen below the U.S. rate. Beginning in 1980, and continuing through 1982, both Massachusetts and U.S. rates have climbed to very high levels; yet the Massachusetts rate has continued to fall relative to U.S. figures. The forecast calls for that relative fall to continue through 1984.

Inflation in Massachusetts is predicted to proceed much like that of the U.S., with rates in the neighborhood of 6-7% per year through the next two years. Of course much depends on federal fiscal and monetary policies, whose actual workings will be known only with time. Inflation

rates can differ moderately among areas of the country; but for the most part, the existence of national markets, a national currency, and national monetary and fiscal policy, means that inflationary pressures are very similar throughout the country.

OCTOBER CONTROL FORECAST (T7)

SUMMARY REPORT
MASSACHUSETTS ECONOMIC POLICY ANALYSIS MODEL
(Units as Indicated)

	1980	1981	1982	1983	1984
Employment--Total Nonag.*	2652	2654	2618	2654	2739
% Change	1.9	.1	-1.4	1.3	3.2
Manufacturing*	675	667	636	636	653
% Change	.4	-1.2	-4.6	-.0	2.7
Non-Manufacturing*	1978	1987	1982	2018	2086
% Change	2.4	.5	-.3	1.8	3.4
Unemployment Rate	5.6	6.3	8.1	7.8	6.5
Employment Rate Index**	106.3	105.2	102.6	103.0	105.4
% Change	1.0	-1.1	-2.5	.4	2.3
Relative to U.S. Index**	101.2	100.6	100.2	100.2	100.6
Rate of Wage Change	8.4	8.5	6.7	6.6	6.6
Wage Index Rel. to U.S.**	93.2	92.8	92.5	92.7	92.9
Avg. Weekly Hours in Mfg.	39.8	40.1	39.8	40.2	40.3
Rate of Price Inflation	12.7	11.1	3.6	5.9	6.6
Relative to U.S. CPI**	96.0	96.7	94.2	94.1	94.4
Personal Income (mil$)	58190	64420	68667	74082	81169
% Change	12.6	10.7	6.6	7.9	9.6
Disposable Income (mil$)	47870	52658	56790	61704	67537
% Change	11.3	10.0	7.8	8.7	9.5
Real Per Cap. D.I. Index**	106.2	104.5	108.1	110.0	112.0
Relative to U.S.**	104.4	102.9	105.7	105.4	104.9
Rel. Business Cost Index**	95.9	95.6	95.2	95.4	95.6
Manufacturing**	95.8	95.0	94.8	95.0	95.2
Non-Manufacturing**	96.0	95.9	95.3	95.5	95.8

*Thousands of people.
**Indexes equal 100 in calendar 1973.

OCTOBER CONTROL FORECAST (T7)

EMPLOYMENT IN MASSACHUSETTS--INDUSTRY DETAIL
(Thousands of People)

	1980	1981	1982	1983	1984
Manufacturing	674.9	666.8	636.0	635.9	653.0
As % of U.S.	3.33	3.31	3.35	3.37	3.37
Durables	411.4	410.0	392.4	394.5	408.0
Lumber, Furntr. (24/25)	13.3	13.1	11.7	11.8	12.0
Stone, Clay, etc. (32)	13.1	12.7	12.1	12.1	12.3
Primary Metals (33)	17.5	17.1	15.5	15.4	16.1
Fabricated Metals (34)	53.4	51.0	47.0	45.9	46.6
Non-elec. Machin. (35)	109.6	110.0	106.3	104.4	108.6
Elec. Equipment (36)	110.5	111.3	110.9	115.1	118.8
Transport. Equip. (37)	35.4	33.4	31.1	30.6	31.6
Instruments (38)	58.6	61.3	57.9	59.2	61.9
Nondurables	263.5	256.9	243.6	241.3	245.0
Food (20)	27.4	25.2	25.3	24.5	24.2
Textiles (22)	25.6	24.5	21.8	21.7	21.6
Apparel (23)	39.8	39.3	36.2	35.6	36.2
Paper (26)	28.2	27.1	26.1	26.0	26.3
Printing (27)	44.1	44.9	43.9	43.1	43.2
Chemicals (28)	18.4	18.4	17.8	18.1	18.7
Rubber (30)	30.6	29.1	28.1	28.7	30.9
Leather (31)	21.4	20.7	18.5	17.8	17.9
Other Nondurables (39)	28.0	27.6	25.8	25.8	26.1
Nonmanufacturing	1977.6	1987.5	1982.5	2017.9	2086.0
Contract Construction	77.6	78.5	79.5	80.6	88.4
Transport & Utilities	121.6	119.8	117.0	114.5	114.9
Wholesale & Retail Trade	574.4	575.0	582.1	597.5	615.0
Finance, Insurance, etc.	159.0	164.0	168.7	174.4	180.1
Services & Miscellaneous	634.4	663.6	669.1	688.3	720.2
Government	410.5	386.7	366.1	362.5	367.3
Federal	58.3	57.4	55.9	57.0	58.8
State	97.8	96.8	94.4	92.1	91.3
Local	254.4	232.5	215.8	213.4	217.2
Nonag. Wage & Sal. Employ.*	2652.5	2654.3	2618.5	2653.7	2739.0
As % of U.S.	2.93	2.91	2.91	2.90	2.91

*Establishment basis (CES Survey).

OCTOBER CONTROL FORECAST (T7)

MASSACHUSETTS EMPLOYMENT, POPULATION, AND LABOR FORCE
(Thousands of People)

	1980	1981	1982	1983	1984
Nonag. Wage & Sal. Employ.*	2652.5	2654.3	2618.5	2653.7	2739.0
As % of U.S.	2.93	2.91	2.91	2.90	2.91
Plus: All Other Nonag.	163.8	162.7	171.4	178.5	185.0
Plus: Agriculture	27.3	25.7	25.8	25.8	25.8
Total Mass. Jobs	2843.6	2842.7	2815.7	2858.0	2949.8
Less: Adjustments**	129.9	70.4	21.7	-14.4	-15.3
Total Employment***	2713.7	2772.3	2793.9	2872.4	2965.1
As % of U.S.	2.73	2.76	2.80	2.82	2.83
Mass. Population	5740.0	5773.0	5809.5	5854.0	5903.7
As % of U.S.	2.58	2.57	2.56	2.56	2.56
Mass. Populn. 16 and Over	4386.6	4437.7	4490.7	4530.8	4569.7
Mass. Employment Rate****	60.5	59.8	58.3	58.6	59.9
Indexed to 1973	425.4	420.8	410.2	412.0	421.7
U.S. Employment Rate	53.6	53.4	52.2	52.4	53.5
Mass. Index Rel. To U.S.	101.2	100.6	100.2	100.2	100.6
Labor Force	2875.2	2960.4	3041.1	3115.5	3172.2
Participation Rate	65.5	66.7	67.7	68.8	69.4
U.S. Participation Rate	63.5	63.7	63.9	64.4	65.0
Number of Unemployed	161.5	188.1	247.2	243.1	207.1
Unemployment Rate	5.6	6.3	8.1	7.8	6.5
U.S. Unemployment Rate	7.2	7.7	9.4	9.2	8.4

*Establishment basis (CES Survey).
**Adjustments for double counting and place of residence.
***Household basis (Current Population Survey).
****Total nonag. employment divided by the population sixteen and over.

OCTOBER CONTROL FORECAST (T7)

MANUFACTURING EMPLOYMENT IN MASSACHUSETTS
(Thousands of People)

	1980	1981	1982	1983	1984
Manufacturing	674.9	666.8	636.0	635.9	653.0
As % of U.S.	3.33	3.31	3.35	3.37	3.37
Durables	411.4	410.0	392.4	394.5	408.0
Lumber, Furniture (24/25)	13.3	13.1	11.7	11.8	12.0
Stone, Clay, Glass (32)	13.1	12.7	12.1	12.1	12.3
Primary Metals (33)	17.5	17.1	15.5	15.4	16.1
Fabricated Metals (34)	53.4	51.0	47.0	45.9	46.6
Non-elec. Machin. (35)	109.6	110.0	106.3	104.4	108.6
Engines & Turbines (351)	6.5	6.3	5.9	5.7	6.3
Metalworking Mach. (354)	17.7	17.0	15.3	14.6	14.9
Spec. Industry M. (355)	16.9	16.2	14.2	13.3	13.2
Gen. Industrial M. (356)	9.7	9.0	8.5	8.6	8.9
Off. & Comput. M. (357)	46.2	49.4	51.3	51.3	53.9
Rest of Industry	12.6	12.0	11.2	10.9	11.5
Elec. Equipment (36)	110.5	111.3	110.9	115.1	118.8
Electronic Compon. (367)	48.9	49.9	51.5	54.8	58.5
Rest of Industry	61.7	61.4	59.3	60.3	60.3
Transport. Equip. (37)	35.4	33.4	31.1	30.6	31.6
Mot. Vehicles & P. (371)	6.3	5.8	6.0	6.5	6.9
Aircraft & Parts (372)	10.6	10.4	9.2	8.6	8.9
Rest of Industry	18.5	17.3	15.8	15.5	15.8
Instruments (38)	58.6	61.3	57.9	59.2	61.9
Meas. & Control (382)	20.3	23.0	22.1	22.9	24.4
Rest of Industry	38.3	38.3	35.9	36.3	37.5
Nondurables	263.5	256.9	243.6	241.3	245.0
Food (20)	27.4	25.2	25.3	24.5	24.2
Textiles (22)	25.6	24.5	21.8	21.7	21.6
Apparel (23)	39.8	39.3	36.2	35.6	36.2
Paper (26)	28.2	27.1	26.1	26.0	26.3
Printing (27)	44.1	44.9	43.9	43.1	43.2
Chemicals (28)	18.4	18.4	17.8	18.1	18.7
Synthet. Materials (282)	5.7	5.5	5.3	5.7	6.1
Rest of Industry	12.7	12.9	12.5	12.5	12.7
Rubber (30)	30.6	29.1	28.1	28.7	30.9
Leather (31)	21.4	20.7	18.5	17.8	17.9
Other Nondurables (39)	28.0	27.6	25.8	25.8	26.1

OCTOBER CONTROL FORECAST (T7)

EMPLOYMENT IN MASSACHUSETTS AS A PER CENT OF U.S. EMPLOYMENT

	1980	1981	1982	1983	1984
Durables	3.38	3.38	3.48	3.51	3.51
Lumber (24)	.75	.79	.76	.73	.73
Furniture (25)	1.74	1.66	1.56	1.54	1.54
Stone, Clay, Glass (32)	1.98	2.00	2.07	2.04	2.01
Primary Metals (33)	1.53	1.53	1.63	1.64	1.63
Fabricated Metals (34)	3.31	3.20	3.21	3.15	3.11
Non-elec. Machin. (35)	4.39	4.39	4.59	4.74	4.69
Engines & Turbines (351)	4.82	4.76	4.98	4.99	4.98
Metalworking Mach. (354)	4.76	4.71	4.75	4.81	4.62
Spec. Industry M. (355)	8.09	8.00	7.98	7.81	7.49
Gen. Industrial M. (356)	3.00	2.86	2.73	2.70	2.67
Off. & Comput. M. (357)	10.75	10.89	10.84	11.34	11.40
Rest of Industry Group	1.23	1.15	1.22	1.29	1.29
Elec. Equipment (36)	5.29	5.32	5.45	5.54	5.58
Electronic Compon. (367)	8.74	8.67	9.68	10.17	10.21
Rest of Industry Group	4.03	4.05	3.96	3.92	3.88
Transport. Equip. (37)	1.86	1.77	1.78	1.74	1.73
Mot. Vehicles & P. (371)	.80	.74	.88	.87	.89
Aircraft & Parts (372)	1.62	1.60	1.50	1.51	1.52
Rest of Industry Group	4.03	3.77	3.55	3.46	3.38
Instruments (38)	8.24	8.44	8.15	8.39	8.71
Meas. & Control (382)	8.39	9.33	8.95	9.34	9.75
Rest of Industry Group	8.16	7.97	7.73	7.89	8.14
Nondurables	3.25	3.19	3.15	3.16	3.15
Food (20)	1.60	1.51	1.55	1.54	1.51
Textiles (22)	3.01	2.98	2.88	2.85	2.79
Apparel (23)	3.15	3.16	3.12	3.11	3.08
Paper (26)	4.07	3.94	3.96	3.95	3.90
Printing (27)	3.52	3.55	3.47	3.44	3.41
Chemicals (28)	1.66	1.66	1.66	1.70	1.71
Synthet. Materials (282)	2.79	2.78	2.87	2.95	2.97
Rest of Industry Group	1.40	1.42	1.41	1.42	1.43
Rubber (30)	4.21	3.96	4.08	4.20	4.27
Leather (31)	9.20	8.89	8.83	8.74	8.61
Other Nondurables (39)	6.71	6.71	6.61	6.63	6.61
Nonmanufacturing	2.86	2.85	2.83	2.83	2.84
Contract Construction	1.78	1.88	2.02	2.05	2.13
Transport & Utilities	2.36	2.32	2.31	2.29	2.27
Wholesale & Retail Trade	2.83	2.80	2.81	2.81	2.79
Finance, Insurance, etc.	3.08	3.09	3.14	3.16	3.15
Services & Miscellaneous	3.55	3.57	3.52	3.51	3.52
Government	2.53	2.41	2.31	2.26	2.27
Federal	2.04	2.07	2.03	2.01	2.01
State & Local	2.63	2.48	2.36	2.31	2.33

OCTOBER CONTROL FORECAST (T7)

PERSONAL INCOME IN MASSACHUSETTS
(Millions of Dollars)

	1980	1981	1982	1983	1984
INCOME BY PLACE OF WORK					
Wage & Sal. Disbursements	36890	40322	42214	45620	50205
Other Labor Income	3737	4154	4573	5175	5976
Proprietors' Income	2459	2564	2588	2793	3131
Total Labor & Propr. Inc.	43086	47039	49375	53588	59312
Breakdown by Industry:					
Farm	115	91	87	90	97
Manufacturing	12755	13979	14246	15469	17151
Durables	8953	9899	10076	10938	12200
Nondurables	3803	4080	4170	4531	4951
Construction	1619	1751	1916	2081	2432
Trade	6911	7598	8002	8769	9666
Finance,Ins.,& R.E.	2819	3167	3437	3801	4207
Transportation & Util.	2803	3050	3256	3440	3730
Services & Misc.	9754	10910	11831	12975	14520
Government	6312	6493	6599	6962	7508
Federal	1438	1563	1621	1724	1850
State & Local	4874	4930	4978	5238	5658
DERIVATION OF PERSONAL INCOME BY PLACE OF RESIDENCE					
Total L&P, Place of Work	43086	47039	49375	53588	59312
Less: Soc. Insr. Contr.	2180	2564	2786	3055	3388
Plus: Residence Adjmt.	-283	-308	-325	-353	-381
Plus: Div.,Int., & Rent	9299	10955	12219	13103	14237
Plus: Transfer Payments	8269	9298	10183	10799	11388
State Unempl. Benefits	332	356	455	476	432
All Other Transfers	7937	8942	9729	10323	10956
Personal Inc., Pl of Res.	58190	64420	68667	74082	81169
Less: Fed. Income Tax	7431	8514	8385	8607	9443
Less: Mass. Income Tax	1975	2225	2384	2561	2852
Less: Other Mass. Taxes	914	1022	1108	1210	1336
Dispos. P.I., Pl of Res.	47870	52658	56790	61704	67537
Boston CPI, 1967 = 100	240.0	266.6	276.2	292.6	312.1
Real D.P.I., '67 Dollars	19948	19753	20556	21080	21640
Real D.P.I., Per Capita	3.475	3.422	3.538	3.601	3.665
% Change	-1.2	-1.5	3.4	1.8	1.8

OCTOBER CONTROL FORECAST (T7)

PER CENT OF MASSACHUSETTS FAMILIES
WITH EARNED FAMILY INCOME IN GIVEN NOMINAL DOLLAR CLASSES
(MEFID MODEL OF ANNUALIZED WORKING-PERIOD EARNINGS)

EARNINGS CLASS: (Nominal Dollars)	1980	1981	1982	1983	1984
$0	9.17	9.65	10.47	10.41	9.86
1 and over	90.83	90.35	89.53	89.59	90.14
$1 - 999	.56	.66	.94	.95	.80
1000 - 1999	.30	.30	.33	.31	.26
2000 - 2999	.41	.38	.41	.38	.32
3000 - 3999	.53	.48	.49	.45	.38
4000 - 4999	.66	.59	.58	.53	.45
5000 - 5999	.81	.71	.68	.61	.52
6000 - 6999	.96	.83	.78	.70	.60
7000 - 7999	1.12	.95	.88	.78	.67
8000 - 8999	1.27	1.08	.99	.87	.75
9000 - 9999	1.43	1.21	1.09	.96	.83
10000 - 10999	1.58	1.33	1.19	1.05	.91
11000 - 11999	1.71	1.45	1.29	1.13	.99
12000 - 12999	1.84	1.56	1.38	1.22	1.06
13000 - 13999	1.96	1.66	1.47	1.30	1.13
14000 - 14999	2.06	1.76	1.55	1.37	1.20
15000 - 19999	11.30	9.83	8.72	7.77	6.90
20000 - 24999	11.73	10.62	9.61	8.74	7.92
25000 - 34999	20.16	19.53	18.49	17.50	16.46
35000 - 49999	17.98	19.41	19.90	20.27	20.43
50000 and over	12.46	16.02	18.76	22.70	27.54
20000 and over	62.32	65.57	66.76	69.20	72.35
$0 - 1000	9.73	10.31	11.41	11.36	10.67
0 - 2000	10.04	10.61	11.75	11.67	10.93
0 - 4000	10.98	11.47	12.65	12.50	11.64
0 - 6000	12.45	12.77	13.91	13.64	12.61
0 - 9000	15.80	15.64	16.56	15.99	14.63
0 - 12000	20.52	19.62	20.13	19.14	17.36
0 - 15000	26.38	24.60	24.52	23.02	20.75
0 - 20000	37.68	34.43	33.24	30.80	27.65
0 - 25000	49.40	45.05	42.85	39.54	35.57
0 - 35000	69.56	64.58	61.34	57.03	52.03
0 - 50000	87.54	83.98	81.24	77.30	72.46

OCTOBER CONTROL FORECAST (T7)

SUMMARY REPORT
MASSACHUSETTS EARNED FAMILY INCOME DISTRIBUTION MODEL
OF ANNUALIZED WORKING-PERIOD EARNINGS

	1980	1981	1982	1983	1984
Per Cent of Families with Female Head	17.50	18.15	18.79	19.43	20.06
Per Cent of Named Group without Earnings					
All Families	9.17	9.65	10.47	10.41	9.86
Male Headed Fams.	4.83	5.02	5.45	5.38	5.07
Female Headed Fams.	29.64	30.54	32.16	31.27	28.95
No. of Families (000)	1195.1	1208.5	1209.3	1209.7	1208.7
With Earnings	1085.5	1091.8	1082.7	1083.8	1089.4
Without Earnings	109.6	116.6	126.6	125.9	119.2
Average Earnings of All Families					
In Nominal Dollars	27915	30173	31568	34102	37564
In 1972 Dollars	14786	14388	14525	14808	15297
Average Earnings of Those with Earnings					
In Nominal Dollars	30734	33399	35261	38063	41672
In 1972 Dollars	16278	15925	16224	16528	16970
Total Earnings (mil $)	33360	36464	38175	41255	45401
Displaced Log-Normal Parameters (Families with Earnings)					
Gini Coefficient	.3253	.3276	.3332	.3363	.3379
Displacement	.4770	.5197	.6198	.6025	.5309
Standard Deviation	.3945	.3862	.3679	.3755	.3955
Mean -- Nom. $ Dist.	10.64	10.76	10.88	10.95	10.98
Mean -- 1972 $ Dist.	10.01	10.02	10.11	10.11	10.09
EXPLANATORY VARIABLES					
Population 18 thru 64	3513.6	3584.6	3619.3	3653.5	3683.5
Tot. Nonag. Employment	2652.5	2654.3	2618.5	2653.7	2739.0
M & R Emp. (% of Tot.)	30.03	29.64	28.76	28.28	28.04
Female Employment	1096.1	1107.7	1100.3	1120.6	1157.8
As % of Popul. 18-64	31.20	30.90	30.40	30.67	31.43
Unemployment Rate	5.6	6.3	8.1	7.8	6.5
Wage/Sal Disbursements	36890	40322	42214	45620	50205
WSD per Employee	13.908	15.193	16.123	17.188	18.326
Wage Acceleration	NA	NA	NA	NA	NA
C.P.I. (Boston)	240.0	266.6	276.2	292.6	312.1

OCTOBER CONTROL FORECAST (T7)

SUMMARY REPORT
MASSACHUSETTS ECONOMIC POLICY ANALYSIS MODEL
(Seasonally Adjusted Annual Rates, Units as Indicated)

	1981:3	1981:4	1982:1	1982:2	1982:3	1982:4
Employment--Total Nonag.*	2623	2657	2645	2621	2599	2609
% Change	-6.0	5.2	-1.7	-3.7	-3.2	1.4
Manufacturing*	664	665	648	639	630	627
% Change	-3.6	.2	-9.5	-5.7	-5.7	-1.8
Non-Manufacturing*	1959	1992	1997	1982	1970	1982
% Change	-6.8	7.0	1.0	-3.0	-2.4	2.5
Unemployment Rate	6.6	7.2	7.3	8.7	8.0	8.5
Employment Rate Index**	103.8	104.8	104.0	102.7	101.7	101.8
% Change	-7.1	4.0	-3.2	-4.7	-4.2	.7
Relative to U.S. Index**	99.1	100.8	100.9	100.4	99.7	99.9
Rate of Wage Change	4.6	6.8	7.2	6.1	5.8	8.2
Wage Index Rel. to U.S.**	92.5	92.4	92.5	92.6	92.5	92.6
Avg. Weekly Hours in Mfg.	40.0	40.1	39.6	39.7	39.8	40.0
Rate of Price Inflation	8.9	6.1	-2.4	1.8	7.9	4.8
Relative to U.S. CPI**	96.4	96.0	94.7	94.1	94.0	94.1
Personal Income (mil$)	65170	66550	67281	68370	68762	70255
% Change	8.9	8.7	4.5	6.6	2.3	9.0
Disposable Income (mil$)	53103	54542	55201	56137	57290	58532
% Change	8.0	11.3	4.9	7.0	8.5	9.0
Real Per Cap. D.I. Index**	104.2	105.3	107.0	108.2	108.2	109.0
Relative to U.S.**	102.5	103.7	105.7	106.4	105.1	105.4
Rel. Business Cost Index**	95.6	95.4	95.1	95.1	95.2	95.3
Manufacturing**	94.8	94.5	94.6	94.9	94.9	94.9
Non-Manufacturing**	96.0	95.8	95.4	95.3	95.3	95.4

*Thousands of people.
**Indexes equal 100 in calendar 1973.

OCTOBER CONTROL FORECAST (T7)

SUMMARY REPORT
MASSACHUSETTS ECONOMIC POLICY ANALYSIS MODEL
(Seasonally Adjusted Annual Rates, Units as Indicated)

	1983:1	1983:2	1983:3	1983:4	1984:1	1984:2
Employment--Total Nonag.*	2621	2639	2666	2688	2707	2727
% Change	1.9	2.9	4.1	3.4	2.9	2.9
Manufacturing*	629	633	639	643	648	651
% Change	1.1	2.8	3.6	3.1	2.6	2.0
Non-Manufacturing*	1992	2007	2028	2045	2060	2076
% Change	2.2	2.9	4.2	3.5	3.0	3.1
Unemployment Rate	8.3	8.0	7.6	7.2	7.0	6.8
Employment Rate Index**	102.1	102.6	103.4	104.0	104.5	105.0
% Change	1.1	1.9	3.1	2.4	2.0	2.0
Relative to U.S. Index**	99.9	100.1	100.4	100.5	100.6	100.6
Rate of Wage Change	6.3	5.7	7.1	7.2	5.4	6.5
Wage Index Rel. to U.S.**	92.6	92.6	92.8	92.8	92.8	92.9
Avg. Weekly Hours in Mfg.	40.1	40.2	40.2	40.3	40.3	40.3
Rate of Price Inflation	6.9	5.8	5.9	6.5	7.2	6.8
Relative to U.S. CPI**	94.1	94.1	94.1	94.2	94.3	94.4
Personal Income (mil$)	71580	73009	74946	76795	78331	80133
% Change	7.8	8.2	11.0	10.2	8.2	9.5
Disposable Income (mil$)	59462	60589	62684	64081	65390	66741
% Change	6.5	7.8	14.6	9.2	8.4	8.5
Real Per Cap. D.I. Index**	108.8	109.0	110.9	111.4	111.4	111.7
Relative to U.S.**	105.3	105.3	105.5	105.4	105.2	105.0
Rel. Business Cost Index**	95.3	95.3	95.4	95.5	95.5	95.5
Manufacturing**	94.9	94.9	95.1	95.1	95.1	95.2
Non-Manufacturing**	95.4	95.4	95.6	95.7	95.7	95.7

*Thousands of people.
**Indexes equal 100 in calendar 1973.

OCTOBER CONTROL FORECAST (T7)

EMPLOYMENT IN MASSACHUSETTS--INDUSTRY DETAIL
(Thousands of People, Seasonally Adjusted)

	1982:1	1982:2	1982:3	1982:4	1983:1	1983:2
Manufacturing	648.4	639.0	629.8	626.8	628.6	632.9
As % of U.S.	3.34	3.35	3.35	3.35	3.36	3.37
Durables	399.0	394.2	389.4	387.1	388.9	392.3
Lumber, Furntr. (24/25)	12.0	11.8	11.4	11.5	11.7	11.8
Stone, Clay, etc. (32)	12.3	12.2	11.8	11.9	12.0	12.1
Primary Metals (33)	16.3	15.6	15.0	14.9	15.1	15.2
Fabricated Metals (34)	49.3	47.5	45.8	45.5	45.5	45.8
Non-elec. Machin. (35)	107.6	105.2	107.5	104.9	103.5	103.7
Elec. Equipment (36)	111.0	111.2	110.4	110.8	112.7	114.5
Transport. Equip. (37)	31.5	32.5	30.3	30.1	30.2	30.5
Instruments (38)	59.0	58.2	57.1	57.5	58.1	58.8
Nondurables	249.4	244.8	240.4	239.7	239.7	240.5
Food (20)	25.6	25.3	25.3	24.9	24.6	24.5
Textiles (22)	22.3	21.6	21.6	21.6	21.6	21.7
Apparel (23)	37.7	37.2	34.6	35.3	35.3	35.5
Paper (26)	26.3	26.1	26.1	25.9	25.8	25.9
Printing (27)	45.2	43.7	43.5	43.2	43.1	43.1
Chemicals (28)	18.2	17.8	17.7	17.7	17.9	18.0
Rubber (30)	28.6	28.3	28.0	27.6	27.8	28.3
Leather (31)	19.1	19.0	18.2	17.9	17.8	17.8
Other Nondurables (39)	26.5	25.8	25.5	25.5	25.6	25.8
Nonmanufacturing	1996.8	1981.7	1969.6	1981.7	1992.4	2006.6
Contract Construction	82.3	79.2	78.2	78.1	78.8	79.6
Transport & Utilities	118.1	118.8	116.0	115.2	114.6	114.4
Wholesale & Retail Trade	583.6	578.1	581.1	585.6	589.6	594.5
Finance, Insurance, etc.	165.8	167.7	170.0	171.2	172.2	173.6
Services & Miscellaneous	674.7	668.9	663.0	669.7	675.8	683.4
Government	372.5	368.9	361.3	361.8	361.2	361.2
Federal	56.7	55.7	55.3	55.8	56.3	56.8
State	94.7	96.2	93.5	93.2	92.5	92.0
Local	221.1	217.0	212.5	212.8	212.4	212.3
Nonag. Wage & Sal. Employ.*	2645.2	2620.7	2599.4	2608.5	2621.0	2639.5
As % of U.S.	2.93	2.91	2.89	2.89	2.89	2.90

*Establishment basis (CES Survey).

OCTOBER CONTROL FORECAST (T7)

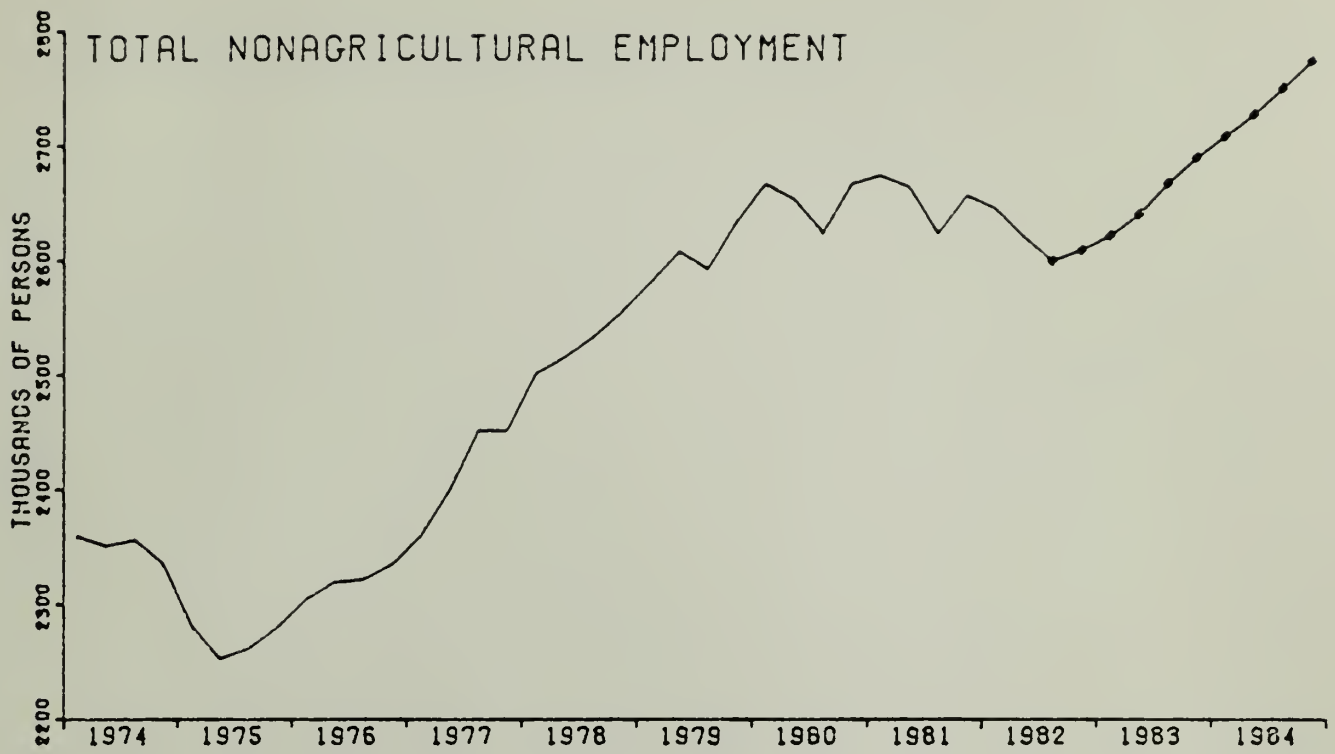
MASSACHUSETTS EMPLOYMENT, POPULATION, AND LABOR FORCE
(Thousands of People, Seasonally Adjusted)

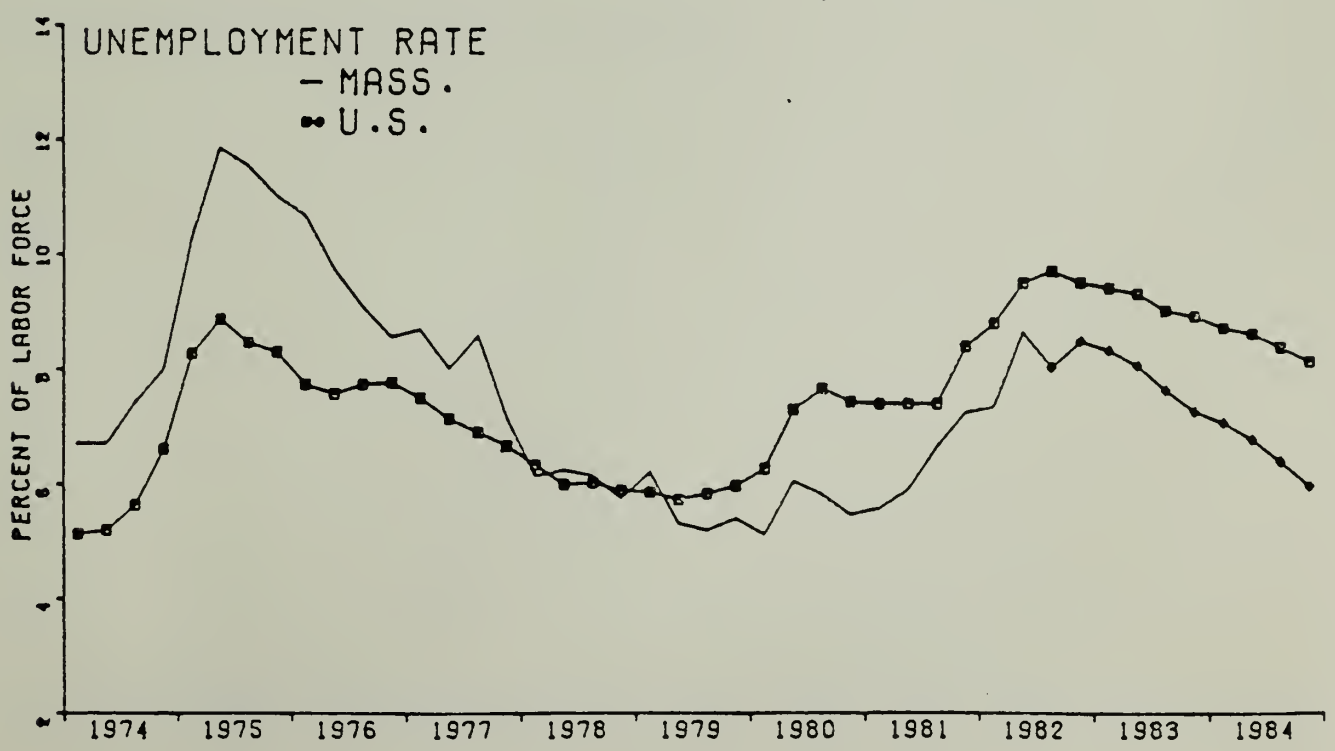
	1982:1	1982:2	1982:3	1982:4	1983:1	1983:2
Nonag. Wage & Sal. Employ.*	2645.2	2620.7	2599.4	2608.5	2621.0	2639.5
As % of U.S.	2.93	2.91	2.89	2.89	2.89	2.90
Plus: All Other Nonag.	166.2	170.6	174.0	174.8	175.9	177.4
Plus: Agriculture	25.1	26.4	25.8	25.8	25.8	25.8
Total Mass. Jobs	2836.5	2817.8	2799.2	2809.1	2822.7	2842.7
Less: Adjustments**	69.2	61.5	-29.8	-13.9	-14.1	-14.3
Total Employment***	2767.3	2756.3	2829.0	2823.0	2836.8	2857.0
As % of U.S.	2.78	2.76	2.83	2.81	2.81	2.81
Mass. Population	5796.0	5805.0	5814.0	5823.2	5834.3	5847.0
As % of U.S.	2.57	2.56	2.56	2.56	2.56	2.56
Mass. Popuiln. 16 and Over	4474.0	4486.0	4497.3	4505.4	4514.7	4525.3
Mass. Employment Rate****	59.1	58.4	57.8	57.9	58.1	58.3
Indexed to 1973	104.0	102.7	101.7	101.8	102.1	102.6
U.S. Employment Rate	52.6	52.2	52.0	52.0	52.1	52.3
Mass. Index Rel. To U.S.	100.9	100.4	99.7	99.9	99.9	100.1
Labor Force	2986.7	3017.3	3075.8	3084.5	3094.0	3107.1
Participation Rate	66.8	67.3	68.4	68.5	68.5	68.7
U.S. Participation Rate	63.4	63.9	64.0	64.1	64.2	64.3
Number of Unemployed	219.4	261.0	246.8	261.4	257.2	250.1
Unemployment Rate	7.3	8.7	8.0	8.5	8.3	8.0
U.S. Unemployment Rate	8.8	9.5	9.7	9.5	9.4	9.3

*Establishment basis (CES Survey).
**Adjustments for double counting and place of residence.
***Household basis (Current Population Survey).
****Total nonag. employment divided by the population sixteen and over.

Data Resources Summary Table for the U.S. Economy - CONTROL082482

	1982				1983				Years				
	I	II	III	IV	I	II	III	IV	1980	1981	1982	1983	1984
GNP and Its Components Billions of Dollars - SAAR													
Total Consumption	1919.4	1945.8	1987.1	2029.3	2078.8	2122.8	2172.8	2220.5	1667.2	1843.1	1970.4	2148.7	2354.8
Nonres. Fixed Investment	357.0	351.9	345.9	342.9	347.3	354.7	366.5	379.1	309.2	346.1	349.4	361.9	415.3
Res. Fixed Investment	93.4	95.2	100.9	109.0	118.3	125.8	134.3	142.4	103.2	105.0	99.6	130.2	161.0
Inventory Investment	-35.6	-17.4	-7.8	1.5	6.7	10.9	14.5	23.7	-10.0	20.4	-14.8	13.9	31.4
Net Exports	31.3	35.1	32.2	27.0	23.8	22.1	21.3	21.5	25.2	26.1	31.4	22.2	19.0
Federal Purchases	249.7	244.5	251.0	263.4	269.7	274.8	280.5	291.0	197.2	228.9	252.1	279.0	309.0
State and Local Govt. Purchases	380.4	386.0	391.3	395.6	398.9	403.6	409.3	414.4	341.2	368.0	388.3	406.5	430.8
Gross National Product	2995.5	3041.2	3100.7	3168.8	3243.5	3314.7	3399.2	3492.5	2633.1	2937.7	3076.5	3362.5	3721.3
Real GNP (1972 Dollars)	1470.7	1475.3	1480.8	1491.7	1504.7	1516.7	1533.3	1550.1	1474.0	1502.6	1479.6	1526.2	1589.2
Prices and Wages - Annual Rates of Change													
Implicit Price Deflator	4.3	4.9	6.5	5.9	6.0	5.7	5.9	6.7	9.3	9.4	6.3	5.9	6.3
CPI - All Urban Consumers	3.2	4.6	8.2	4.6	6.6	5.9	5.9	6.0	13.5	10.3	6.3	6.0	6.3
Producer Price Index - Finished Goods	2.9	0.6	6.7	4.5	5.3	5.6	5.7	6.1	13.5	9.3	4.0	5.2	6.8
Compensation per Hour	10.1	5.9	6.8	6.9	7.6	7.2	7.5	7.6	10.3	9.6	7.9	7.2	7.7
Core Inflation	8.2	7.8	7.5	7.1	6.8	6.6	6.5	6.4	9.3	8.9	7.7	6.6	6.4
Production and Other Key Measures													
Industrial Production (1967=1.000)	1.418	1.392	1.375	1.397	1.425	1.453	1.489	1.520	1.470	1.509	1.395	1.471	1.582
Annual Rate of Change	-11.7	-7.0	-4.8	6.6	8.2	8.1	10.2	8.6	-3.6	2.6	-7.5	5.5	7.5
Housing Starts (Mil. Units)	0.920	0.951	1.090	1.201	1.253	1.340	1.431	1.505	1.298	1.100	1.041	1.382	1.648
Retail Unit Car Sales (Mil. Units)	8.0	7.5	7.7	8.3	8.7	8.9	9.4	9.9	9.0	8.5	7.9	9.2	10.4
Unemployment Rate (%)	8.8	9.5	9.7	9.5	9.4	9.3	9.0	8.9	7.2	7.6	9.4	9.1	8.5
Federal Budget Surplus (NIA)	-119.3	-122.4	-161.6	-162.0	-139.8	-134.4	-152.1	-141.7	-61.4	-60.0	-141.3	-142.0	-122.2
Money and Interest Rates													
Money Supply (M-1)	448.1	451.8	454.7	460.8	467.8	472.0	476.5	484.3	415.8	436.7	460.8	484.3	509.6
% Change, 4th-Qtr. to 4th-Qtr.	10.8	3.3	2.6	5.5	6.2	3.6	3.9	6.7	7.3	5.0	5.5	5.1	5.2
New AA Corp. Utility Rate (%)	16.78	16.17	14.98	13.55	14.27	14.02	12.70	12.98	13.14	16.25	15.37	13.49	12.16
New High-Grade Corp. Bond Rate (%)	15.25	15.15	14.21	12.87	13.61	13.37	12.10	12.40	12.47	15.01	14.37	12.87	11.61
Federal Funds Rate (%)	14.23	14.51	9.38	9.26	11.67	11.36	10.17	10.37	13.36	16.38	11.84	10.89	10.53
Prime Rate (%)	16.27	16.50	13.91	12.24	13.77	13.98	13.34	13.16	15.27	18.87	14.73	13.56	13.01
Incomes - Billions of Dollars													
Personal Income	2510.4	2553.4	2610.3	2661.3	2714.0	2767.9	2836.8	2907.5	2160.4	2415.8	2583.8	2806.6	3081.4
Real Disposable Income (%Ch)	-1.9	3.6	7.7	2.5	0.7	2.1	7.6	3.6	0.2	2.5	2.1	3.4	3.6
Saving Rate (%)	6.6	6.9	8.1	7.9	7.3	7.1	7.8	7.9	5.8	6.4	7.4	7.5	7.6
Profits Before Tax	171.6	168.7	166.1	170.3	177.7	186.1	197.5	209.9	242.5	232.1	169.2	192.8	238.7
Profits After Tax	115.9	115.0	114.2	116.4	117.3	122.6	129.7	137.5	157.8	150.9	115.4	126.8	155.4
Company Profits	89.8	88.5	94.2	95.8	102.2	105.9	110.7	115.7	104.5	107.2	92.1	108.6	126.6
Four-Qtr. Percent Change	-17.0	-19.2	-11.0	-9.1	13.8	19.7	17.6	20.8	-1.7	2.6	-14.1	18.0	16.5
Composition of Real GNP - Annual Rates of Change													
Gross National Product	-5.1	1.3	1.5	3.0	3.6	3.2	4.5	4.5	-0.4	1.9	-1.5	3.1	4.1
Final Sales	0.2	-1.5	0.9	1.9	2.9	2.8	4.1	3.5	0.5	1.0	-0.6	2.4	3.7
Total Consumption	2.4	2.0	2.2	3.3	3.6	3.0	4.0	3.3	0.3	1.8	1.0	3.2	3.8
Nonres. Fixed Investment	-5.0	-12.4	-11.8	-7.8	0.6	3.4	7.4	7.7	-2.3	3.5	-4.4	-1.8	7.6
Equipment	-7.6	-18.4	-12.9	-5.4	6.4	7.9	11.0	10.2	-2.7	2.4	-7.1	0.8	9.6
Nonres. Construction	1.3	2.5	-9.5	-12.6	-11.0	-6.2	-0.6	1.7	-1.1	6.3	2.0	-7.4	2.5
Res. Fixed Investment	-9.7	10.7	22.5	28.6	29.3	19.2	21.0	17.8	-20.1	-4.9	-7.9	23.3	15.0
Exports	-12.6	6.2	-4.8	0.2	4.0	4.6	5.5	5.5	8.9	-0.5	-3.7	2.7	5.6
Imports	-17.6	13.2	-7.0	5.5	7.8	6.7	7.4	7.1	-0.4	7.2	0.3	5.4	6.6
Federal Government	-5.4	-15.1	5.6	6.9	4.0	1.9	2.7	1.4	4.2	3.7	1.6	2.7	2.6
State and Local Governments	-0.9	0.0	-0.6	-1.6	-3.1	-1.8	-0.9	-1.4	1.1	-0.8	-1.2	-1.7	-0.7


TOTAL NONAGRICULTURAL EMPLOYMENT
THOUSANDS OF PERSONS
2200
2300
2400
2500
2600
2700
2800
1974
1975
1976
1977
1978
1979
1980
1981
1982
1983
1984


UNEMPLOYMENT RATE
— MASS.
•• U.S.
PERCENT OF LABOR FORCE
2
4
6
8
10
12
14
1974
1975
1976
1977
1978
1979
1980
1981
1982
1983
1984

MANUFACTURING EMPLOYMENT
THOUSANDS OF PERSONS
570
590
610
630
650
670
690
1974
1975
1976
1977
1978
1979
1980
1981
1982
1983
1984

NONMANUFACTURING EMPLOYMENT
THOUSANDS OF PERSONS
1760
1840
1920
2000
2080
2160
1974
1975
1976
1977
1978
1979
1980
1981
1982
1983
1984

REAL PER CAPITA DISPOSABLE INCOME
THOUSANDS OF 1972 DOLLARS
3.10
3.20
3.30
3.40
3.50
3.60
3.70
1974
1975
1976
1977
1978
1979
1980
1981
1982
1983
1984

REAL PER CAPITA DISPOSABLE INCOME
MASS. RELATIVE TO U.S.
INDEX 1973=100
100
102
104
106
108
110
1974
1975
1976
1977
1978
1979
1980
1981
1982
1983
1984

The October 1982

Massachusetts Revenue Analysis and Forecasting Model Tax Forecast

by

George Treyz & Roy Williams*

	Fiscal 1983	Fiscal 1984
	(Millions of Dollars)	
Alcoholic Beverages	87	92
Commercial Banks	33	35
Savings Banks	44	47
Cigarettes	146	147
Corporations	477	509
Deeds	13	15
Estate and Inheritance	101	109
Income	2461	2715
Insurance	121	128
Motor Fuel	255	252
Public Utilities	25	27
Racing and Boxing	38	42
Room Occupancy	27	30
Sales and Use	986	1088
Regular	639	695
Meals	178	194
Motor Vehicle	169	199
Misc. Dept. of Revenue	1	1
Beano, Raffles & Bazaars	7	8
Total (of amounts before rounding)	4821	5242

*MEPA Project staff, Department of Economics, University of Massachusetts, Amherst, MA 01003 (Tel. 413-545-0915). Support was provided by the Department of Public Welfare, the Division of Employment Security, the Department of Commerce and Development, and Massport. The U.S. forecast used was the Control forecast from Data Resources, Inc. (CONTROL082482)

OCTOBER CONTROL FORECAST (T7)

MASSACHUSETTS TAX REVENUES
(Millions of Dollars)

	Fiscal 1981	Fiscal 1982	Fiscal 1983	Fiscal 1984
Alcoholic Beverages	85	84	87	92
Commercial Banks	38	29	33	35
Savings Banks	38	41	44	47
Cigarettes	148	145	146	147
Corporations	442	498	477	509
Deeds	13	12	13	15
Estate and Inheritance	82	99	101	109
Income	2058	2324	2461	2715
Insurance	114	122	121	128
Motor Fuel	238	269	255	252
Public Utilities	18	30	25	27
Room Occupancy	22	24	27	30
Sales and Use	860	917	986	1088
Regular	572	608	639	695
Meals	155	164	178	194
Motor Vehicle	132	146	169	199
Misc. Dept. of Revenue*	0	1	1	1
Dept. of Revenue Total	4156	4598	4776	5193
Racing and Boxing	32	35	38	42
Beano, Raffles & Bazaars**	6	6	7	8
Comptrollers' Rept. Total	4194	4640	4821	5242

*Includes Beano, Raffles & Bazaars before January, 1978
**As reported by Comptroller less amount reported by D. of R.

OCTOBER CONTROL FORECAST (T7)

MASSACHUSETTS TAX REVENUES
(Per Cent Changes at Annual Rates)

	Fiscal 1981	Fiscal 1982	Fiscal 1983	Fiscal 1984
Alcoholic Beverages	5.19	-.35	2.95	5.30
Commercial Banks	2.33	-23.14	12.42	5.41
Savings Banks	13.78	8.42	6.92	6.83
Cigarettes	2.85	-1.87	.73	.47
Corporations	.79	12.60	-4.19	6.58
Deeds	5.88	-3.66	2.29	15.51
Estate and Inheritance	4.01	20.99	2.02	7.35
Income	10.63	12.95	5.91	10.30
Insurance	2.25	7.19	-1.24	5.86
Motor Fuel	12.02	13.35	-5.15	-1.31
Public Utilities	-23.52	70.49	-18.38	11.61
Room Occupancy	23.87	10.01	9.81	11.46
Sales and Use	15.38	6.66	7.44	10.42
Regular	13.10	6.13	5.15	8.75
Meals	13.01	5.61	8.22	9.23
Motor Vehicle	29.97	10.20	16.11	17.99
Misc. Dept. of Revenue*	-46.57	95.79	-6.22	26.40
Dept. of Revenue Total	9.48	10.65	3.88	8.73
Racing and Boxing	9.77	8.76	8.32	9.19
Beano, Raffles & Bazaars**	18.83	6.84	8.79	8.70
Comptrollers' Rept. Total	9.49	10.63	3.92	8.73

*Includes Beano, Raffles & Bazaars before January, 1978
**As reported by Comptroller less amount reported by D. of R.

OCTOBER CONTROL FORECAST (T7)

ANALYSIS OF MASSACHUSETTS TAX COLLECTIONS
(Money amounts in Millions of Dollars)

	Fiscal 1981	Fiscal 1982	Fiscal 1983	Fiscal 1984
ALCOHOLIC BEVERAGES	84.7	84.4	86.9	91.5
Surprise Factor	0.0	.0	-.9	0.0
Processing Factor	0.0	0.0	0.0	0.0
Portion explained below (NS)	84.7	84.4	87.8	91.5
Portion explained below (SA)	84.7	84.5	87.8	91.6
Mult	1.01	.99	.99	.99
Tax Rate (per 67$ of sales)	.24	.24	.24	.24
Population over 18	4281	4347	4390	4437
Real disp. income per adult(1.2*)	6.135	6.118	6.270	6.432
Tax effect ratio (-1.3*)	.89	.90	.90	.91
*Elasticity (power diff. from 1 to which variable is raised.)				
Same variable without exponent:				
Real disp. income per adult	4.640	4.629	4.726	4.829
Tax effect ratio	1.09	1.09	1.08	1.08
COMMERCIAL BANKS	38.2	29.4	33.0	34.8
Surprise Factor	.0	.0	1.5	0.0
Processing Factor	7.0	0.0	0.0	0.0
Portion explained below (NS)	31.2	29.4	31.5	34.8
Portion explained below (SA)	31.0	29.3	31.4	34.7
Mult	.77	.71	.71	.71
Tax Rate	.1254	.1254	.1254	.1254
Commercial bank profits (mil$)	2099	2169	2323	2567
SAVINGS BANKS	37.6	40.8	43.6	46.6
Surprise Factor	.0	.0	.8	0.0
Processing Factor	0.0	0.0	0.0	0.0
Portion explained below (NS)	37.6	40.8	42.9	46.6
Portion explained below (SA)	37.3	40.7	42.6	46.1
Mult	1.053	1.111	1.111	1.111
Tax Rate (Fixed wt. index*)	1.00	1.00	1.00	1.00
Sav. bank deposits index (.37*)	1.060	1.094	1.105	1.158
Comm. bank profits index (.63*)	1.48	1.53	1.63	1.78
*Weights used for rate and base composite indexes.				

OCTOBER CONTROL FORECAST (T7)

ANALYSIS OF MASSACHUSETTS TAX COLLECTIONS
(Per Cent Changes at Annual Rates)

	Fiscal 1981	Fiscal 1982	Fiscal 1983	Fiscal 1984
ALCOHOLIC BEVERAGES	5.19	-.35	2.95	5.30
Surprise Factor	0.00	0.00	-1.05	0.00
Processing Factor	0.00	0.00	0.00	0.00
Echo Factor	0.00	0.00	0.00	1.07
Portion explained below (NS)	5.19	-.35	4.00	4.23
Portion explained below (SA)	5.17	-.25	3.95	4.24
Mult	5.34	-2.08	0.00	0.00
Tax Rate (per 67$ of sales)	0.00	0.00	0.00	0.00
Population over 18	1.29	1.56	.99	1.07
Real disp. income per adult(1.2*)	-2.44	-.27	2.49	2.58
Tax effect ratio (-1.3*)	1.05	.56	.44	.54
*Elasticity (power diff. from 1 to which variable is raised.)				
Same variable without exponent:				
Real disp. income per adult	-2.07	-.23	2.10	2.18
Tax effect ratio	-.79	-.42	-.33	-.41
COMMERCIAL BANKS	2.33	-23.14	12.42	5.41
Surprise Factor	.00	0.00	5.25	0.00
Processing Factor	18.73	0.00	0.00	0.00
Echo Factor	0.00	-17.22	0.00	-5.17
Portion explained below (NS)	-16.41	-5.92	7.17	10.57
Portion explained below (SA)	-16.55	-5.38	7.10	10.48
Mult	-23.66	-8.44	0.00	0.00
Tax Rate	0.00	0.00	0.00	0.00
Commercial bank profits (mil$)	9.32	3.34	7.10	10.48
SAVINGS BANKS	13.78	8.42	6.92	6.83
Surprise Factor	.00	0.00	1.84	0.00
Processing Factor	0.00	0.00	0.00	0.00
Echo Factor	-.00	-.00	0.00	-1.87
Portion explained below (NS)	13.78	8.42	5.08	8.70
Portion explained below (SA)	13.95	8.92	4.82	8.26
Mult	4.30	5.57	0.00	0.00
Tax Rate (Fixed wt. index*)	0.00	0.00	0.00	0.00
Sav. bank deposits index (.37*)	3.95	3.23	.96	4.85
Comm. bank profits index (.63*)	11.63	3.15	6.44	9.62
*Weights used for rate and base composite indexes.				

OCTOBER CONTROL FORECAST (T7)

ANALYSIS OF MASSACHUSETTS TAX COLLECTIONS
(Money amounts in Millions of Dollars)

	Fiscal 1981	Fiscal 1982	Fiscal 1983	Fiscal 1984
CIGARETTES	148.1	145.4	146.4	147.1
Surprise Factor	.0	.0	.4	0.0
Processing Factor	3.0	0.0	0.0	0.0
Portion explained below (NS)	145.1	145.4	146.0	147.1
Portion explained below (SA)	145.0	145.4	146.0	147.1
Mult	1.02	1.00	1.00	1.00
Tax Rate	.21	.21	.21	.21
Population over 18	4281	4347	4390	4437
Per capita Use (Time trend)	.664	.656	.648	.641
Tax effect ratio (-.75*)	.83	.84	.85	.86
*Elasticity (power diff. from 1 to which variable is raised.)				
Same variable without exponent:				
Tax effect ratio	1.28	1.26	1.25	1.23
CORPORATIONS	442.3	498.1	477.2	508.5
Surprise Factor	.0	.0	14.5	0.0
Processing Factor	-15.0	0.0	0.0	0.0
Portion explained below (NS)	457.3	498.1	462.7	508.5
Portion explained below (SA)	457.8	502.8	462.9	505.7
Mult	.99	1.19	1.37	1.31
Corporate profits (1.01*)	5964	5401	4222	4796
Tax rate	.095	.095	.095	.095
Manufact. Capital stock (.08*)	21479	24601	27738	31547
Tax rate	.0026	.0026	.0026	.0026
Mnfact. equip. investment (-.09*)	2395	2496	2374	2619
Credit rate	.03	.03	.03	.03
*Probable approx. contribution to total collections in a typical year.				
DEEDS	13.0	12.5	12.8	14.8
Surprise Factor	.0	-.0	-.7	0.0
Processing Factor	0.0	0.0	0.0	0.0
Portion explained below (NS)	13.0	12.5	13.5	14.8
Portion explained below (SA)	13.0	12.5	13.5	14.8
Mult	.85	.75	.75	.75
Tax Rate (per $500)	1.14	1.14	1.14	1.14
Disposable income	50383	54746	58968	64724

OCTOBER CONTROL FORECAST (T7)

ANALYSIS OF MASSACHUSETTS TAX COLLECTIONS
(Per Cent Changes at Annual Rates)

	Fiscal 1981	Fiscal 1982	Fiscal 1983	Fiscal 1984
CIGARETTES	2.85	-1.87	.73	.47
Surprise Factor	0.00	0.00	.27	0.00
Processing Factor	2.08	0.00	0.00	0.00
Echo Factor	0.00	-2.03	0.00	-.27
Portion explained below (NS)	.76	.16	.45	.75
Portion explained below (SA)	.72	.25	.44	.75
Mult	-1.26	-1.19	0.00	0.00
Tax Rate	0.00	0.00	0.00	0.00
Population over 18	1.29	1.56	.99	1.07
Per capita Use (Time trend)	-1.19	-1.19	-1.19	-1.19
Tax effect ratio (-.75*)	1.93	1.11	.65	.88
*Elasticity (power diff. from 1 to which variable is raised.)				
Same variable without exponent:				
Tax effect ratio	-2.53	-1.47	-.87	-1.17
CORPORATIONS	.79	12.60	-4.19	6.58
Surprise Factor	.00	0.00	2.91	0.00
Processing Factor	-3.42	0.00	0.00	0.00
Echo Factor	0.00	3.69	0.00	-3.34
Portion explained below (NS)	4.20	8.91	-7.10	9.91
Portion explained below (SA)	4.43	9.83	-7.93	9.23
Mult	11.21	20.43	15.00	-4.35
Corporate profits (1.01*)	-5.68	-9.45	-21.82	13.59
Tax rate	0.00	0.00	0.00	0.00
Manufact. Capital stock (.08*)	16.91	14.54	12.75	13.73
Tax rate	0.00	0.00	0.00	0.00
Mnfact. equip. investment (-.09*)	15.59	4.19	-4.86	10.30
Credit rate	0.00	0.00	0.00	0.00
*Probable approx. contribution to total collections in a typical year.				
DEEDS	5.88	-3.66	2.29	15.51
Surprise Factor	.00	0.00	-5.41	0.00
Processing Factor	0.00	0.00	0.00	0.00
Echo Factor	-.00	-.00	0.00	5.81
Portion explained below (NS)	5.88	-3.66	7.70	9.70
Portion explained below (SA)	5.73	-3.77	7.71	9.76
Mult	-4.79	-11.44	0.00	0.00
Tax Rate (per $500)	0.00	0.00	0.00	0.00
Disposable income	11.05	8.66	7.71	9.76

OCTOBER CONTROL FORECAST (T7)

ANALYSIS OF MASSACHUSETTS TAX COLLECTIONS
(Money amounts in Millions of Dollars)

	Fiscal 1981	Fiscal 1982	Fiscal 1983	Fiscal 1984
ESTATE AND INHERITANCE	82.1	99.4	101.4	108.8
Surprise Factor	.0	0.0	-.3	0.0
Processing Factor	0.0	0.0	0.0	0.0
Portion explained below (NS)	82.1	99.4	101.6	108.8
Portion explained below (SA)	82.2	99.4	101.7	108.9
Mult	.98	1.10	1.10	1.10
Household net worth	119298	129090	132090	141483
INCOME	2057.7	2324.1	2461.4	2714.8
Surprise Factor (not used)	.0	.0	10.3	0.0
Processing Factor	-25.0	-31.0	-54.5	-58.1
Portion explained (see (NS)	2082.7	2355.1	2515.9	2772.8
separate detail) (SA)	2082.7	2355.1	2515.9	2772.8
Mult	1.06	1.10	1.10	1.10
Earned Income	42549	45566	48077	52698
Tax Rate	.0538	.0538	.0538	.0538
Unearned Income	2312	2571	2782	2893
Tax Rate	.1075	.1075	.1075	.1075
Total Deductions & Exemptions	10493	10734	10943	11432
INSURANCE	114.0	122.2	120.7	127.8
Surprise Factor	0.0	.0	4.7	0.0
Processing Factor	0.0	0.0	0.0	0.0
Portion explained below (NS)	114.0	122.2	116.0	127.8
Portion explained below (SA)	114.2	123.9	116.3	126.6
Mult	.87	1.04	1.25	1.19
Corporate profits	5964	5401	4222	4796

OCTOBER CONTROL FORECAST (T7)

ANALYSIS OF MASSACHUSETTS TAX COLLECTIONS
(Per Cent Changes at Annual Rates)

	Fiscal 1981	Fiscal 1982	Fiscal 1983	Fiscal 1984
ESTATE AND INHERITANCE	4.01	20.99	2.02	7.35
Surprise Factor	0.00	0.00	-.27	0.00
Processing Factor	0.00	0.00	0.00	0.00
Echo Factor	-4.11	-.00	0.00	.28
Portion explained below (NS)	8.12	20.99	2.29	7.07
Portion explained below (SA)	8.02	20.86	2.32	7.11
Mult	-1.21	11.69	0.00	0.00
Household net worth	9.35	8.21	2.32	7.11
INCOME	10.63	12.95	5.91	10.30
Surprise Factor (not used)	.00	.00	.44	0.00
Processing Factor	-1.34	-1.49	-2.31	-2.31
Echo Factor	-.00	1.36	1.39	2.39
Portion explained (see (NS)	11.97	13.08	6.83	10.21
separate detail) (SA)	11.97	13.08	6.83	10.21
Mult	-1.14	3.74	0.00	0.00
Earned Income	10.82	7.09	5.51	9.61
Tax Rate	0.00	0.00	0.00	0.00
Unearned Income	12.34	11.22	8.19	4.01
Tax Rate	0.00	0.00	0.00	0.00
Total Deductions & Exemptions	3.72	2.30	1.94	4.47
INSURANCE	2.25	7.19	-1.24	5.86
Surprise Factor	0.00	.00	3.85	0.00
Processing Factor	0.00	0.00	0.00	0.00
Echo Factor	0.00	0.00	-.00	-4.30
Portion explained below (NS)	2.25	7.19	-5.09	10.16
Portion explained below (SA)	2.66	8.50	-6.18	8.85
Mult	8.84	19.82	20.00	-4.17
Corporate profits	-5.68	-9.45	-21.82	13.59

OCTOBER CONTROL FORECAST (T7)

ANALYSIS OF MASSACHUSETTS TAX COLLECTIONS
(Money amounts in Millions of Dollars)

	Fiscal 1981	Fiscal 1982	Fiscal 1983	Fiscal 1984
MOTOR FUELS	237.5	269.2	255.4	252.0
Surprise Factor	.0	.0	3.6	0.0
Processing Factor	0.0	0.0	0.0	0.0
Portion explained below (NS)	237.5	269.2	251.7	252.0
Portion explained below (SA)	235.0	269.2	252.0	251.9
Mult	1.02	1.01	1.01	1.01
Tax Rate	.099	.112	.105	.107
Consumption, 72 $, gas & oil	691.8	709.4	707.3	690.3
Tax effect ratio (-.23*)	1.000	1.000	1.004	1.005
*Elasticity (power diff. from 1 to which variable is raised.)				
Same variable without exponent:				
Tax effect ratio	.999	1.002	.985	.979
PUBLIC UTILITIES	17.6	30.1	24.5	27.4
Surprise Factor	-.0	.0	.6	0.0
Processing Factor	0.0	0.0	0.0	0.0
Portion explained below (NS)	17.6	30.1	23.9	27.4
Portion explained below (SA)	17.7	30.6	23.9	27.1
Mult	.54	1.03	1.03	1.03
Corporate profits	5964	5401	4222	4796
ROOM OCCUPANCY	22.1	24.3	26.7	29.7
Surprise Factor	-.0	.0	.5	0.0
Processing Factor	1.0	0.0	0.0	0.0
Portion explained below (NS)	21.1	24.3	26.1	29.7
Portion explained below (SA)	21.2	24.3	26.2	29.9
Mult	1.22	1.32	1.32	1.32
Tax Rate	.057	.057	.057	.057
Real p. c. disp. income (.74*)	2.469	2.474	2.512	2.557
Disposable income	51191	55834	60427	66299
Employment effect (2.1*)	.87	.84	.82	.84
*Elasticity (power diff. from 1 to which variable is raised.)				
Same variable without exponent:				
Real per cap. dispos. income	3.386	3.395	3.466	3.549
Employment effect	.93	.92	.91	.92

OCTOBER CONTROL FORECAST (T7)

ANALYSIS OF MASSACHUSETTS TAX COLLECTIONS
(Per Cent Changes at Annual Rates)

	Fiscal 1981	Fiscal 1982	Fiscal 1983	Fiscal 1984
MOTOR FUELS	12.02	13.35	-5.15	-1.31
Surprise Factor	.00	.00	1.35	0.00
Processing Factor	0.00	0.00	0.00	0.00
Echo Factor	0.00	-.00	0.00	-1.42
Portion explained below (NS)	12.02	13.35	-6.50	.11
Portion explained below (SA)	10.71	14.55	-6.41	-.01
Mult	-4.64	-.96	0.00	0.00
Tax Rate	16.67	12.86	-6.55	2.31
Consumption, 72 $, gas & oil	-.33	2.55	-.31	-2.40
Tax effect ratio (-.23*)	-.10	-.07	.41	.15
*Elasticity (power diff. from 1 to which variable is raised.)				
Same variable without exponent:				
Tax effect ratio	.41	.31	-1.70	-.63
PUBLIC UTILITIES	-23.52	70.49	-18.38	11.61
Surprise Factor	-.00	.00	2.10	0.00
Processing Factor	0.00	0.00	0.00	0.00
Echo Factor	-.00	0.00	-.00	-2.95
Portion explained below (NS)	-23.52	70.49	-20.48	14.55
Portion explained below (SA)	-23.16	72.97	-21.82	13.59
Mult	-18.53	91.03	0.00	0.00
Corporate profits	-5.68	-9.45	-21.82	13.59
ROOM OCCUPANCY	23.87	10.01	9.81	11.46
Surprise Factor	-.00	.00	2.19	0.00
Processing Factor	5.61	0.00	0.00	0.00
Echo Factor	-.00	-5.22	0.00	-2.27
Portion explained below (NS)	18.26	15.22	7.62	13.73
Portion explained below (SA)	18.43	14.86	7.83	13.90
Mult	9.25	8.55	0.00	0.00
Tax Rate	0.00	0.00	0.00	0.00
Real p. c. disp. income (.74*)	-.89	.18	1.55	1.77
Disposable income	11.05	9.07	8.23	9.72
Employment effect (2.1*)	-1.54	-3.15	-1.93	2.00
*Elasticity (power diff. from 1 to which variable is raised.)				
Same variable without exponent:				
Real per cap. dispos. income	-1.20	.25	2.10	2.40
Employment effect	-.73	-1.52	-.92	.95

OCTOBER CONTROL FORECAST (T7)

ANALYSIS OF MASSACHUSETTS TAX COLLECTIONS
(Money amounts in Millions of Dollars)

	Fiscal 1981	Fiscal 1982	Fiscal 1983	Fiscal 1984
SALES--REGULAR	572.5	607.5	638.8	694.7
Surprise Factor	.0	.0	6.2	0.0
Processing Factor	21.0	4.0	0.0	0.0
Portion explained below (NS)	551.5	603.5	632.7	694.7
Portion explained below (SA)	551.4	603.6	632.7	694.8
Mult	1.08	1.16	1.16	1.16
Tax Rate	.050	.050	.050	.050
Consumption expend. net of m.v.	3444	3537	3699	4045
Rel. employment effect (1.03*)	1.02	1.01	1.01	1.02
Tax effect ratio (-5.5*)	.76	.76	.76	.76
*Elasticity (power diff. from 1 to which variable is raised.)				
Same variable without exponent:				
Relative employment effect	1.02	1.01	1.01	1.02
Tax effect ratio	1.05	1.05	1.05	1.05
SALES--MEALS	155.5	164.2	177.7	194.1
Surprise Factor	0.0	.0	.8	0.0
Processing Factor	2.0	0.0	0.0	0.0
Portion explained below (NS)	153.5	164.2	176.9	194.1
Portion explained below (SA)	153.6	164.4	177.0	194.3
Mult	.99	.97	.97	.97
Tax Rate	.050	.050	.050	.050
Disposable income	50383	54746	58968	64724
Tax effect ratio (-1.25*)	.90	.90	.90	.90
Tax effect ratio	1.05	1.05	1.05	1.05
SALES--MOTOR VEHICLES	132.1	145.6	169.1	199.5
Surprise Factor	.0	.0	2.0	0.0
Processing Factor	3.0	0.0	0.0	0.0
Portion explained below (NS)	129.1	145.6	167.0	199.5
Portion explained below (SA)	129.6	145.1	166.5	198.9
Mult	1.13	1.20	1.20	1.20
Tax Rate	.050	.050	.050	.050
Consumption expend., motor veh.	2473	2623	3009	3595
Tax effect ratio (-8.0*)	.68	.68	.68	.68
Tax effect ratio	1.05	1.05	1.05	1.05

OCTOBER CONTROL FORECAST (T7)

ANALYSIS OF MASSACHUSETTS TAX COLLECTIONS
(Per Cent Changes at Annual Rates)

	Fiscal 1981	Fiscal 1982	Fiscal 1983	Fiscal 1984
SALES--REGULAR	13.10	6.13	5.15	8.75
Surprise Factor	.00	.00	1.02	0.00
Processing Factor	4.15	.73	0.00	0.00
Echo Factor	-.00	-4.04	-.70	-1.06
Portion explained below (NS)	8.95	9.45	4.83	9.81
Portion explained below (SA)	8.94	9.47	4.83	9.81
Mult	-1.00	7.43	0.00	0.00
Tax Rate	0.00	0.00	0.00	0.00
Consumption expend. net of m.v.	8.96	2.70	4.57	9.35
Rel. employment effect (1.03*)	.99	-.79	.25	.41
Tax effect ratio (-5.5*)	0.00	0.00	0.00	0.00
*Elasticity (power diff. from 1 to which variable is raised.)				
Same variable without exponent:				
Relative employment effect	.96	-.76	.24	.39
Tax effect ratio	0.00	0.00	0.00	0.00
SALES--MEALS	13.01	5.61	8.22	9.23
Surprise Factor	0.00	.00	.50	0.00
Processing Factor	1.45	0.00	0.00	0.00
Echo Factor	-.00	-1.38	0.00	-.51
Portion explained below (NS)	11.56	6.98	7.72	9.75
Portion explained below (SA)	11.52	6.97	7.71	9.76
Mult	.43	-1.55	0.00	0.00
Tax Rate	0.00	0.00	0.00	0.00
Disposable income	11.05	8.66	7.71	9.76
Tax effect ratio (-1.25*)	0.00	0.00	0.00	0.00
Tax effect ratio	0.00	0.00	0.00	0.00
SALES--MOTOR VEHICLES	29.97	10.20	16.11	17.99
Surprise Factor	.00	.00	1.40	0.00
Processing Factor	2.95	0.00	0.00	0.00
Echo Factor	0.00	-2.56	-.00	-1.44
Portion explained below (NS)	27.02	12.76	14.71	19.43
Portion explained below (SA)	26.37	12.02	14.75	19.45
Mult	23.77	5.62	0.00	0.00
Tax Rate	0.00	0.00	0.00	0.00
Consumption expend., motor veh.	2.10	6.06	14.75	19.45
Tax effect ratio (-8.0*)	0.00	0.00	0.00	0.00
Tax effect ratio	0.00	0.00	0.00	0.00

OCTOBER CONTROL FORECAST (T7)

ANALYSIS OF MASSACHUSETTS INCOME TAX COLLECTIONS
(Money amounts in Millions of Dollars)

	Fiscal 1981	Fiscal 1982	Fiscal 1983	Fiscal 1984
TOTAL INCOME TAX	2057.7	2324.1	2461.4	2714.8
Portion explained below (SA)	2082.7	2355.1	2515.9	2772.8
Mult	1.06	1.10	1.10	1.10
Earned Income Base	42549	45566	48077	52698
Earned Income Tax Rate	.0538	.0538	.0538	.0538
Sources of Earned Income:				
Wages & Salaries	38784	41347	43552	47843
Per Cent Taxed	97.0	97.0	97.0	97.0
Proprietors' Income	2521	2571	2657	2955
Per Cent Taxed	67.0	67.0	67.0	67.0
Pensions & Annuities	857	938	1030	1134
Per Cent Taxed	51.0	51.0	51.0	51.0
Interest (at earned rate)	3603	4245	4735	5078
Per Cent Taxed	45.0	45.0	45.0	45.0
Other	2328	2577	2747	2963
Per Cent Taxed	52.5	52.5	52.5	52.5
Unearned Income Base	2312	2571	2782	2893
Unearned Income Tax Rate	.1075	.1075	.1075	.1075
Sources of Unearned Income:				
Dividends	2071	2440	2721	2918
Per Cent Taxed	60.4	60.4	60.4	60.4
Capital Gains	646	571	529	455
Statutory Per Cent Taxed	70.0	60.0	40.0	40.0
Per Cent of Stat. C.G. Taxed	80.0	80.0	80.0	80.0
Interest (at unearned rate)	901	1061	1184	1269
Per Cent Taxed	60.4	60.4	60.4	60.4
Total Deductions & Exemptions	10493	10734	10943	11432
Basic Exemption (Wage earners)	5366	5325	5286	5446
Basic Exemption (Self-employed)	327	332	351	364
Blindness	6	6	6	6
Day Care	403	402	400	401
Dependents	1123	1093	1084	1089
Elderly	274	278	282	287
Separate Filing	-11	-11	-11	-11
Non-working Spouses	353	353	349	336
Retirement Contributions	2141	2407	2617	2891
Other deductions	199	216	229	250
Other Exemptions	324	352	374	409

OCTOBER CONTROL FORECAST (T7)

ANALYSIS OF MASSACHUSETTS INCOME TAX COLLECTIONS
(Per Cent Changes at Annual Rates)

	Fiscal 1981	Fiscal 1982	Fiscal 1983	Fiscal 1984
TOTAL INCOME TAX	10.63	12.95	5.91	10.30
Portion explained below (SA)	11.97	13.08	6.83	10.21
Mult	-1.14	3.74	0.00	0.00
Earned Income Base	10.82	7.09	5.51	9.61
Earned Income Tax Rate	0.00	0.00	0.00	0.00
Sources of Earned Income:				
Wages & Salaries	10.72	6.61	5.33	9.85
Per Cent Taxed	0.00	0.00	0.00	0.00
Proprietors' Income	3.47	1.99	3.36	11.21
Per Cent Taxed	0.00	0.00	0.00	0.00
Pensions & Annuities	8.33	9.44	9.82	10.11
Per Cent Taxed	0.00	0.00	0.00	0.00
Interest (at earned rate)	18.62	17.81	11.54	7.23
Per Cent Taxed	0.00	0.00	0.00	0.00
Other	12.64	10.71	6.59	7.89
Per Cent Taxed	0.00	0.00	0.00	0.00
Unearned Income Base	12.34	11.22	8.19	4.01
Unearned Income Tax Rate	0.00	0.00	0.00	0.00
Sources of Unearned Income:				
Dividends	18.62	17.81	11.54	7.23
Per Cent Taxed	0.00	0.00	0.00	0.00
Capital Gains	-5.10	-11.64	-7.31	-13.97
Statutory Per Cent Taxed	-22.22	-14.29	-33.33	0.00
Per Cent of Stat. C.G. Taxed	0.00	0.00	0.00	0.00
Interest (at unearned rate)	18.62	17.81	11.54	7.23
Per Cent Taxed	0.00	0.00	0.00	0.00
Total Deductions & Exemptions	3.72	2.30	1.94	4.47
Basic Exemption (Wage earners)	.75	-.77	-.73	3.03
Basic Exemption (Self-employed)	-.16	1.51	5.71	3.57
Blindness	.22	.67	.65	.86
Day Care	.12	-.10	-.48	.32
Dependents	-3.00	-2.65	-.84	.51
Elderly	1.49	1.55	1.36	1.70
Separate Filing	NM	NM	NM	NM
Non-working Spouses	5.21	-.06	-.96	-3.69
Retirement Contributions	14.83	12.43	8.72	10.48
Other deductions	12.10	8.74	6.07	9.38
Other Exemptions	12.10	8.74	6.07	9.38

OCTOBER CONTROL FORECAST (T7)

SUMMARY REPORT
MASSACHUSETTS ECONOMIC POLICY ANALYSIS MODEL
(Units as Indicated)

	Fiscal 1981	Fiscal 1982	Fiscal 1983	Fiscal 1984
Employment--Total Nonag.*	2657	2636	2617	2697
% Change	.8	-.8	-.7	3.1
Manufacturing*	668	654	630	645
% Change	-1.4	-2.1	-3.8	2.5
Non-Manufacturing*	1989	1982	1988	2052
% Change	1.5	-.3	.3	3.2
Unemployment Rate	5.7	7.5	8.2	7.2
Employment Rate Index**	105.9	103.8	102.0	104.2
% Change	-.3	-1.9	-1.7	2.1
Relative to U.S. Index**	101.1	100.3	99.9	100.5
Rate of Wage Change	8.8	7.3	6.6	6.6
Wage Index Rel. to U.S.**	93.1	92.5	92.6	92.8
Avg. Weekly Hours in Mfg.	40.0	39.8	40.0	40.3
Rate of Price Inflation	12.0	7.2	4.5	6.3
Relative to U.S. CPI**	96.6	95.3	94.1	94.3
Personal Income (mil$)	61471	66843	70902	77551
% Change	12.1	8.7	6.1	9.4
Disposable Income (mil$)	50383	54746	58968	64724
% Change	11.0	8.7	7.7	9.8
Real Per Cap. D.I. Index**	105.5	106.2	108.7	111.3
Relative to U.S.**	103.7	104.6	105.3	105.3
Rel. Business Cost Index**	95.9	95.3	95.2	95.5
Manufacturing**	95.5	94.7	94.9	95.1
Non-Manufacturing**	96.1	95.6	95.4	95.7

*Thousands of people.
**Indexes equal 100 in calendar 1973.

NOTES FOR MRAF OCT. 1982

Tax forecast. For a full documentation please request the MRAF booklet.

The forecast with the Massachusetts Revenue Analysis and Forecasting (MRAF) model is made using a documented automatic procedure except for the explicit introduction of judgmental information. For this forecast the judgment adjustments for each tax affected are listed alphabetically along with an appraisal of the effect of the adjustment.

ALCOHOLIC BEVERAGES

No adjustments.

BANKS (COMMERCIAL)

No adjustments.

BANKS (SAVINGS)

No adjustments.

CIGARETTES

Three million dollars added for special processing in 1981:2; seven million added in 1981:3 and seven million removed in 1982:2. This reflects processing changes that had the effect of changing the past pattern of receipts of 1 2/3 months in June, 1/3 month in July to 2 months in June 1981, 1 month in July 1981 and 1 month in June 1982.

This adjustment is continued at seven million in the forecast period.

CORPORATIONS

Additive adjustments of -$10 and -5 million were made for 81:1 and 81:2 respectively to allow for the effect of changing the law so that corporations can deduct refunds from current estimated payments rather than wait for a refund check from the state. The mult. was increased

by fifteen percent for fiscal 1983 and by ten percent for subsequent years based on collections in the first quarter fiscal 1983 and on the difference in industrial mix in the U.S. and Massachusetts.

DEEDS

No adjustments.

ESTATE AND INHERITANCE

No adjustments.

INCOME

Reductions of -$18 and $37 for 83:1 and 83:2 and -$19, and -$39 for 84:1 and 84:2 were made to capture the effect of deductions of rental payments allowed under Proposition 2-1/2. The effect is to reduce predicted collections by $55, and $59 million in fiscal 83, and 84 respectively.

INSURANCE

The mult. was increased by 20 percent in Fiscal 1983 and 15 percent in 1984 to compensate for the likely difference in insurance and corporate profit performance.

MOTOR FUELS

Due to change in processing procedure we have added $9 million to 82:3 and subtracted $9 million from 83:2 and for subsequent third and 2nd quarters.

PUBLIC UTILITIES

No adjustments.

ROOM OCCUPANCY

No adjustments.

SALES (REGULAR)

No adjustments.

SALES (MEALS)

No adjustments.

SALES (MOTOR VEHICLES)

No adjustments.

ACME
BOOKBINDING CO. INC.

OCT 28 1990

100 CAMBRIDGE STREET
CHARLESTOWN, MASS.